



# University and Colleges PME & PowerLogic Users Group

Schneider Electric

April 22, 2021  
Webinar

Life Is On

**Schneider**  
Electric

# Agenda

- 1 **Introductions**
- 2 **Objectives**
- 3 **Case Study: PME2020 upgrade**
- 4 **Case Study: RETScreen integration**
- 5 **Case Study: PME hosted on cloud**
- 6 **Discussion**

# Schneider Electric Team

## Multi-discipline Team

- Schneider Electric Canada:
  - Yoann Briant, National Director
  - Mauricio Gonzalez, Sales Manager
  - Roger LaPierre, Business Development
  - Lakmini Perera, End User Sales
  - Matthew Puscus, Digital Energy Solutions
  - Jesus Vargas, Digital Energy Solutions
  - Tirtho Dutta Gupta, P.Eng.
- Schneider Local Rep:
  - Adam Campbell
  - Eric Langford
- Ecoxpert – PowerCore – Ayaz Mosa



# Institutions Represented

Universities and colleges are active energy managers.

- Following post-secondary campuses have PME software and/or Schneider Meters. This is a partial list of installations in Ontario.



# Institutions Represented

## Alphabetical Order

Brock University:	Elenore Breslow
Carleton University:	Penny Jastremski, Gavin Symonds
Conestoga College:	Tony Sasso
Durham College / UOIT:	Stephen Cassar, Brent Skillen
Georgian College:	Duncan Mills
University of Guelph:	Doug Doel
McMaster University:	Joe Emberson, Alvin Baldovino, Elliott Jeyaseelan
Queens University:	Janet Pollard, Nathan Splinter, David Gerrish
Ryerson University:	Animesh Roy
Seneca College:	Jon Dilworth
University of Toronto:	Keith Foster, Ahmed Azhari
University of Waterloo:	Chris Ford
University of Western Ont:	Mike Greene
Wilfrid Laurier University:	Adam Clarkson
York University:	Steve Prince, Bogdan Strafalogea



# Agenda

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Case Study: PME2020 upgrade

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# Objective

## What and Why a Users Group?

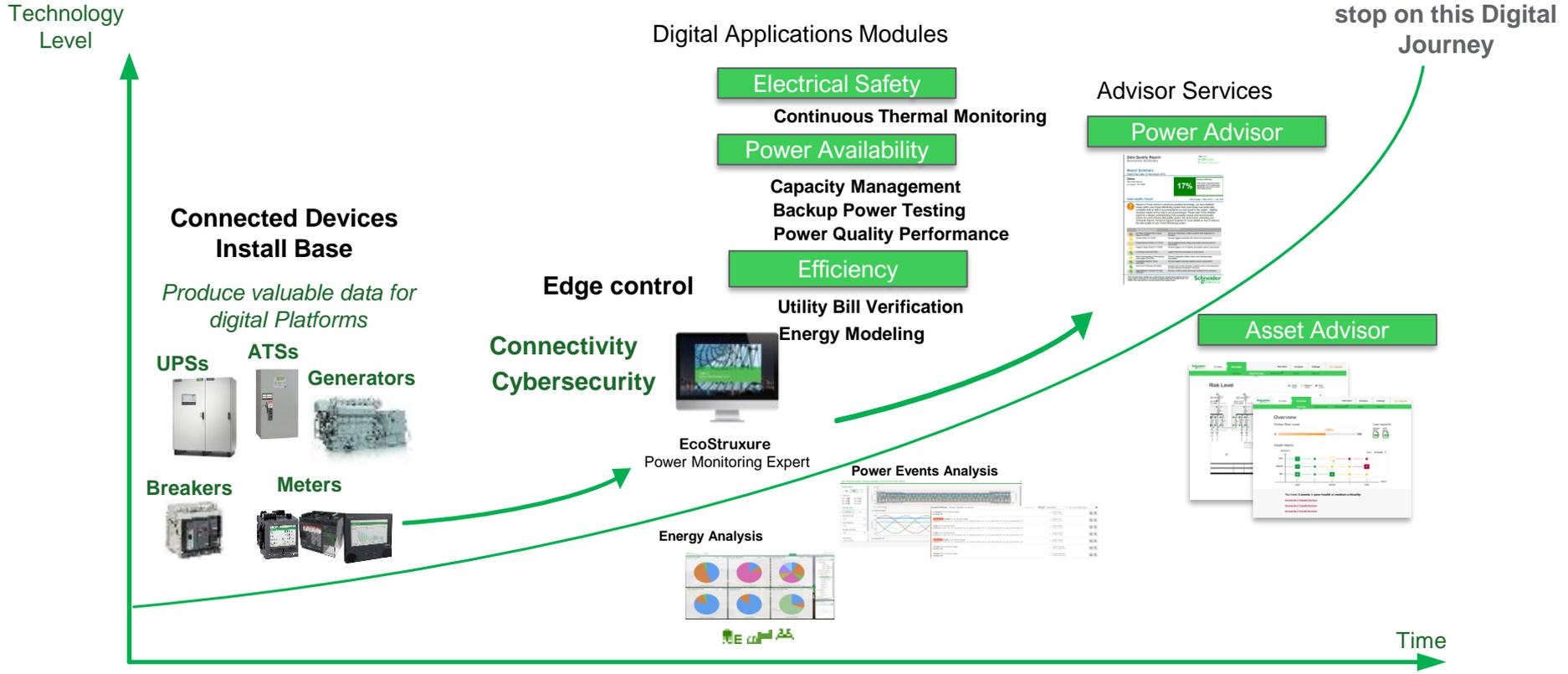
- University and College campuses are viewed as leaders in their communities.
- We want to ensure that the PowerLogic and ION meters and the Power Monitoring Expert (PME) software is being used to meet the needs of the various users.
- We believe that bringing together users with common requirements, it will be possible to maximize these the significant investments in metering and energy monitoring.
- If common concerns or requirements are identified, then Schneider should be able to adapt a solution to meet a common need among users. University and College campuses are an important customer base for Schneider Electric.



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# PME and EcoStruxure Technology Evolution



# Case Study – PME2020 upgrade

## WLU Upgrades their PME

Ayaz Mosa – Powercore, Schneider Ecoxpert  
Adam Clarkson – Wilfrid Laurier University

Campus locations in system: 3 (Waterloo, Brantford, Kitchener)  
Previous versions: PME6 & PME7; system first commissioned in 2011.  
Number of meters > 80  
Models include PM870, PM8240, ION7650, PM5560, etc.  
Integration water meters, gas meters, solar panel metering.





## Kitchener-Waterloo Campus Map





1. Alumni Hall	70kW 602V 24A -91%	8. Ajrd Building	32kW 602V 62A -87%	15. Theatre Auditorium	65kW 602V 52A -82%	22. King St Residence	75kW 602V 22A -84%	29. Athletic Complex	15kW 500V 23A -86%
2. Arts Wings	35kW 603V 62A -87%	9. Library Building	31kW 604V 68A -92%	16. 202 Regina	55kW 601V 61A -83%	23. Leopold Residence	21kW 604V 90A -84%	30. University Stadium	36kW 603V 66A -87%
3. Bricker Academic	25kW 605V 52A -84%	10. Northdale Campus	35kW 601V 22A -87%	17. Cold Region	25kW 605V 62A -85%	24. Little House Wings	47kW 601V 55A -77%	31. 232 King Str	52kW 602V 63A -74%
4. Career and Coop	75kW 601V 61A -84%	11. Peters Building	34kW 603V 66A -82%	18. Bouckaert Hall	85kW 597V 92A -82%	25. Macdonald House	45kW 602V 82A -87%	32. Lazaridis Hall	45kW 604V 42A -84%
5. Dining Hall	15kW 604V 72A -83%	12. Science Building	80kW 605V 41A -84%	19. Bricker Residence	45kW 602V 62A -84%	26. BESS Site	85kW 605V 42A -91%	33. 81 Lodge Str	42kW 600V 34A -79%
6. DARWB	22kW 601V 68A -84%	13. Science Research	25kW 598V 44A -88%	20. Conrad Hall	25kW 600V 44A -85%	27. Waterloo College	33kW 599V 77A -89%	34. Student Services	31kW 604V 61A -88%
7. FNCC	55kW 599V 72A -82%	14. Martin Luther Uni	55kW 603V 61A -82%	21. Euler Residence	75kW 603V 42A -84%	28. Willson Hall	35kW 603V 62A -87%		



## Waterloo Campus

Main Campus Load Consumption

**1.978 MW**

Main Campus Load Displacement

**0.346 MW**

Load Percentage Legend



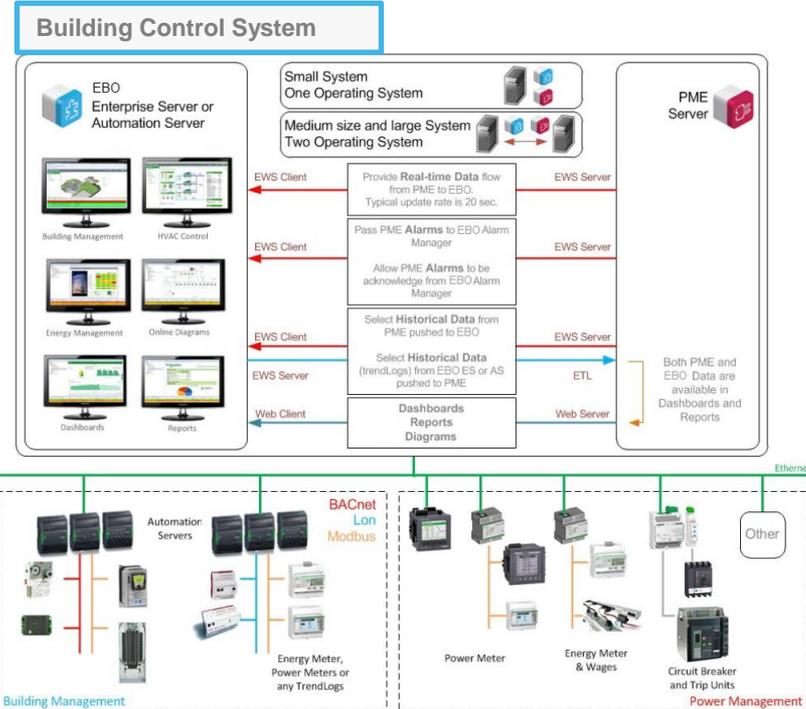
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# Making the Ecostruxure solution more robust – Platform Integration

Do more exchanging key data between platforms

Integration between Schneider Platforms or 3rd party ones



## Analytics - Building Advisor



Automated Fault Detection and Diagnostics of your Building Systems, helps lower your maintenance costs and improve asset value.

### Typical results\*



29% decrease in unscheduled maintenance



33% fewer occupant complaints



Up to 20% energy cost reduction

Combining people, technology and collaboration ensures you will meet the changing demands for high-performance businesses and buildings. With our innovative digital services, you can maintain the balance between cost, risk and asset value.

\* Typical savings based on Schneider Electric customer portfolio. Results vary based on type of building and configuration.

# PME Integration to RETScreen

Georgian College integrates PME data to RETScreen

- Presentation by: Matthew Puscus
- Duncan Mills Georgian College suggested at last presentation
  
- Tommy Anderson - NRCAN

**RETScreen overview**

**RETScreen – PME data connector**

**Summary / Demo of integration**

# RETScreen Overview

What is RETScreen and what is it used for?

- RETScreen® Expert *is a Clean Energy Management Software system for energy efficiency, renewable energy and cogeneration project feasibility analysis as well as ongoing energy performance analysis*
- Developed by NRCAN (Natural Resources Canada)
- Assess and optimize the technical and financial viability of clean energy projects
- Monitor and validate performance of facility
- Monitor Greenhouse gas emissions
- Identify additional energy savings opportunities
- More than 675,000 users in every country and territory of the world



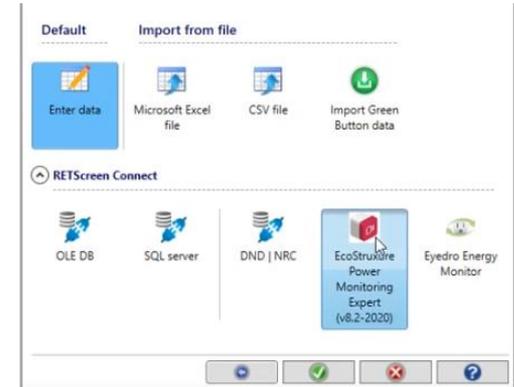
**RETScreen®**  
Expert

# PME Data Connector

## Integrated SQL Data Connector

- Available in version 8.x released May 1<sup>st</sup>, 2021
- Simple SQL connector identifies available sources in PME database and measurements (logged)
- Connects to local or remote SQL server instance hosting PME data
  - Remote connections may require some additional parameters
- Support for PME versions 8.2 and up
- Aggregate sources / Create virtual nodes

Period	Begin	End	Duration Hours	Electricity kWh	Power kW	Cost \$	Comments
98	2020-09-23 15:15	2020-09-23 15:30	0.25	12.4392	1.4393		
99	2020-09-23 15:30	2020-09-23 15:45	0.25	12.7990	1.4391		
100	2020-09-23 15:45	2020-09-23 16:00	0.25	13.1587	1.4390		
101	2020-09-23 16:00	2020-09-23 16:15	0.25	13.5185	1.4392		
102	2020-09-23 16:15	2020-09-23 16:30	0.25	13.8783	1.4390		
103	2020-09-23 16:30	2020-09-23 16:45	0.25	14.2381	1.4392		
104	2020-09-23 16:45	2020-09-23 17:00	0.25	14.5978	1.4389		
105	2020-09-23 17:00	2020-09-23 17:15	0.25	14.9576	1.4393		
106	2020-09-23 17:15	2020-09-30 07:30	158.25	0.1215	1.4394		
107	2020-09-30 07:30	2020-09-30 07:45	0.25	0.4813	1.4390		
108	2020-09-30 07:45	2020-09-30 08:00	0.25	0.8411	1.4392		
109	2020-09-30 08:00	2020-09-30 08:15	0.25	1.2008	1.4389		



# Summary

## Benefits to having this integration

- Simplifies the data transfer process from EMIS (PME) to RETScreen Expert
- Better understand the financial feasibility of your projects
- Create awareness for energy efficiency and emissions management
- Invaluable reporting tool for:
  - Energy Audits
  - Performance Analysis
  - GHG Emissions reporting
- Demonstration time...

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# There are alternatives to look at the challenges

*But you can't manage what you're not monitoring!*



## CAPEX Limitations

impose **untapped efficiencies** in the facility and a significant cost of opportunity.



Changing optics is key to break the cycle and **benefit from digital technologies** without the burden of **upfront investment**.



## Overused Equipment

and lack of visibility put at **risk** not only efficiency but also the **safety of people**, the **facility** and the **business**.



## Emergencies & Downtime

are a **heavy cost** for any facility plus the **downtime** that takes to recover.

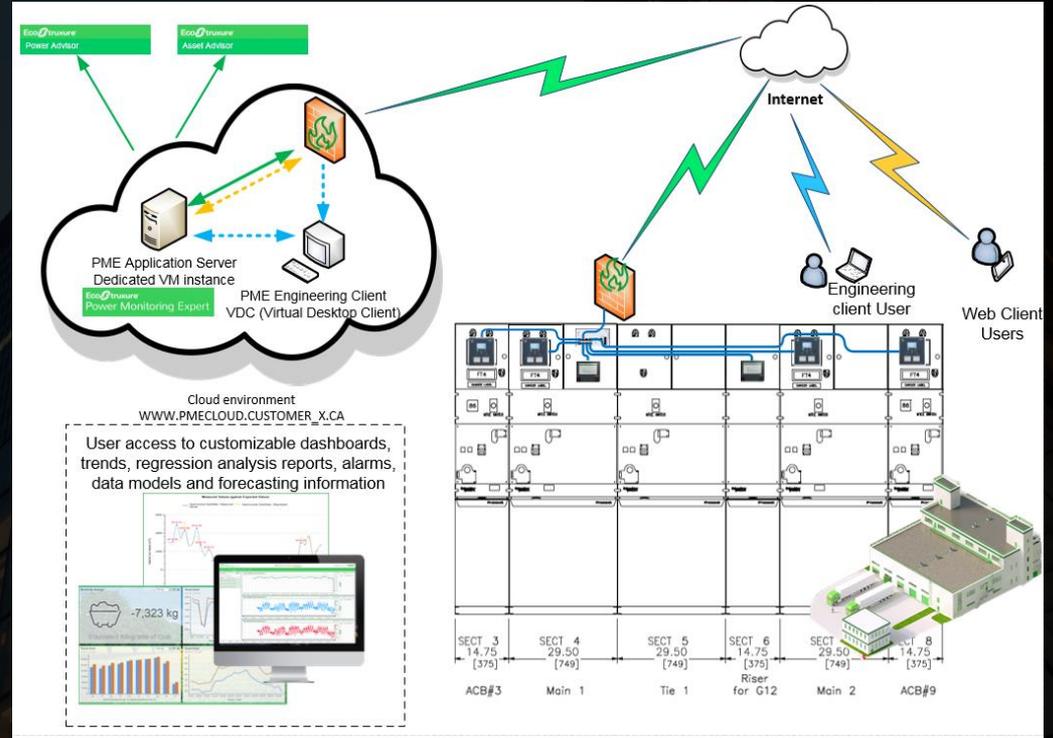
# EcoStruxure PME Cloud System Architecture

## WEB Portal

- ❑ On-premise meters installed
- ❑ Device integrated via VPN gateway (wired or wireless option available)
- ❑ System access via Web portal
- ❑ Energy Analysis reporting module only available

## Dedicated System

- ❑ On-premise meters installed
- ❑ Device integrated via VPN gateway (wired or wireless option available)
- ❑ Web Client access via URL
- ❑ Optional Engineering client
- ❑ PME modules optional for dedicated VM instance.



# PME Hosted on the cloud

McMaster looking at PME hosted solution

- McMaster is exploring options for remote hosted PME
- Discussion with Elliott Jeyaseelan – McMaster



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# Discussion

## Ecostruxure – Architecture.



### Flexible

to address the key challenges from safety, reliability, sustainability and cybersecurity

### Scalable

from small facilities to the largest electro-intensive facilities

### Open

to 3rd party devices and to integration with other operational systems

# Follow up

Next meeting six to eight months

- Ideally convene at PLUG 2021 scheduled for Oct 21
  - Not sure if PLUG2021 will proceed.
- Suggestions for future topics?
- Based on feedback from today; we will follow up individually or to the group as required.
- Presentation is posted at:

<http://know-your-power.com/archive/ucug>

