FEBRUARY 5, 2026

Panel discussion: Planning and procurement of an EMIS

Jay Mullin
Energy coach

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SAVE ON ENERGY POWER WHAT'S NEXT

Energy Management Information Systems (EMIS)

EMIS incentives are available through Save On Energy's Expanded Energy Management Program

Industrial facilities can receive incentives up to 50% of the eligible costs to implement an EMIS:

1. $50,000/facility with ≤400,000 GJ annual baseline consumption (all fuels)
2. $250,000/facility with >400,000 GJ annual baseline consumption (all fuels)

An EMIS includes measurements, networks, data storage, energy management information, people and management processes.

Projects must be completed before **March 2027** while funding is available. To start your application process **please email** SEM@ieso.ca.

Financial support for industrial facilities participating in the Expanded Energy Management Program is provided by Natural Resources Canada (NRCan) as part of its Green Industrial Facilities and Manufacturing Fund.

XLerate Program

Project feasibility study funding

50% cost shared up to $100,000

Incentives of $300/MWh

up to 75% of eligible costs, up to $15 million

Comprehensive support

from initial scoping to measurement and verification

- Minimum project **electricity savings of 600 MWh per year.**
- Facility must be **non-residential.**
- Projects must involve an **energy-efficiency improvement applied to an industrial process**
- Technology must be **commercially available**
- Projects must be completed **within 5 years of the execution of the Participant Agreement**
- Projects must have an IPMVP-adherent **Measurement and Verification (M&V) Plan**

How can you start?

Download the Program Guide at Saveonenergy.ca/XLerate

Send us an email:

XLerate@ieso.ca

Agenda

Anyssa Rambali
Quality Manager
Durez Canada Company LTD

Plamen Notov
Director
E2F Systems

Dave Fox
Principal and Founder,
Quantify Environmental LTD.

Energy Management Information System (EMIS) Planning and Procurement

Anyssa Rambali, P.Eng , PMP, CEM
Quality Manager and Energy Team Lead
Durez Canada Company Ltd
Fort Erie, Ontario, Canada

Agenda

- Defining the scope for metering
- Selection of instrumentation
- Integration to an EMIS platform

Defining the scope for metering

Defining the scope for EMIS

This was driven mainly by our manufacturing process.
Our site is separated into:

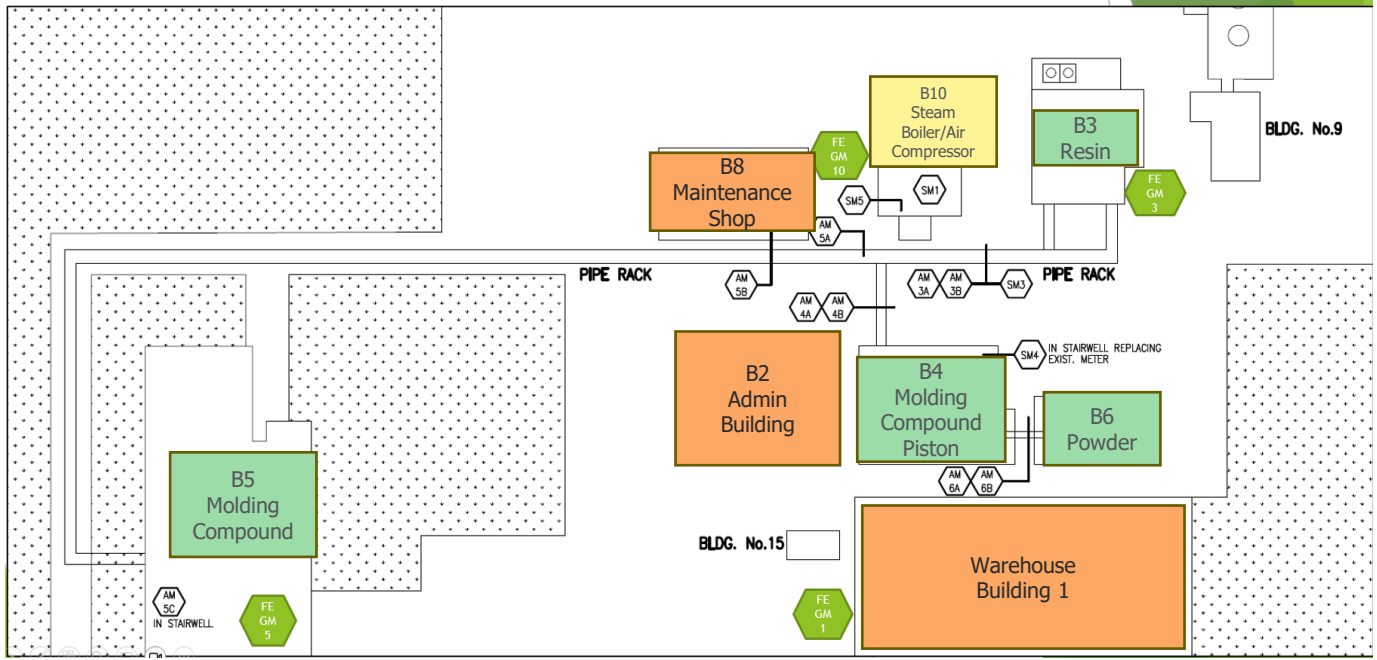
- **Two Molding Compound Units**
- **Two Resin Production Units**
- **Auxiliary Units such as the Boiler/Air Compressor Units, Warehouse and Maintenance Buildings.**

Determine which utilities we were interested in metering:

- **Compressed Air**
- **Natural Gas**
- **Steam**
- **Electricity**

EMIS (Energy Management Information System)

Air, Steam and Natural Gas Meter Location Overview



Physical Plant Layout needed to be reviewed to strategically position the meters.

Meters were installed throughout the plant:

- 4 Steam Meters
- 9 Air Meters
- (Already existed)
  - 4 Gas Meters
  - 11 Electrical Meters

Project Cost:

- $100K (USD)
- Implemented in 2015
- Our plant applied for an incentive at the time which covered almost half of the project cost.

Selection of instrumentation

Air Meters and Steam Meters

- For the steam meters, instrumentation was recommended by our vendor who completes our annual steam trap survey. The vendor was chosen based on the positive history with the plant and experience with the survey results.

- For the air meter, we obtained quotes from a few instrumentation companies who have worked with our plant in the past.

- The applications were reviewed by the vendors in terms of the supplied steam/air pressure, estimated steam flow rate, pipe sizes and compatibility with our PLC (Programmable Logic Controller).

- Instruments were selected based on data accuracy, ease of compatibility, maintenance in addition to the price.

Selection of instrumentation (cont'd)

Electrical and Gas Meters

- These meters already existed at our facility. We worked with an electrician to determine whether the data could be obtained from the meter and required wiring to our PLC.

- The gas supplier was contacted to determine how to obtain the data from the gas meter. In this case, additional instrumentation and wiring were needed.

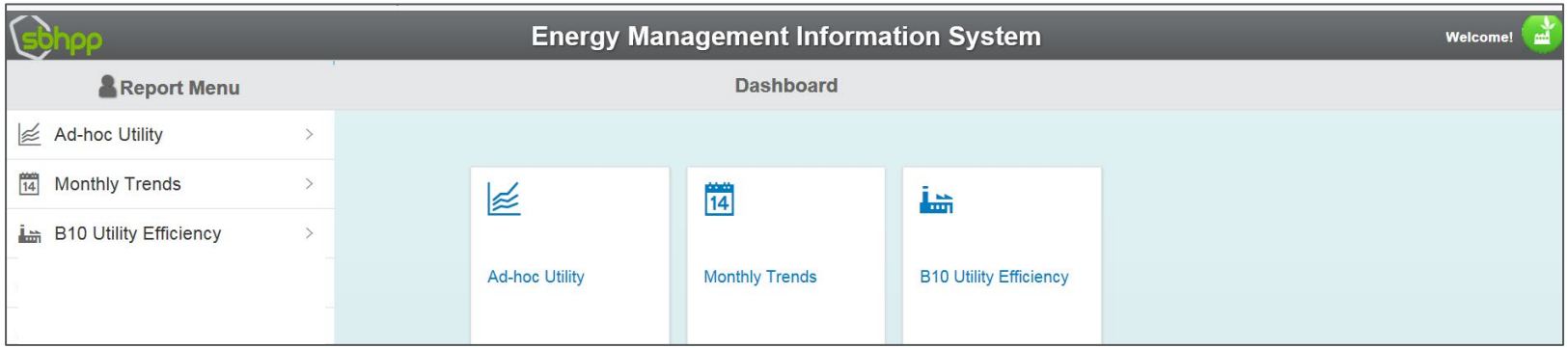
Integration to an EMIS Platform

(Energy Management Information System)

Integration to an EMIS Platform

Integration

- We worked with our plant integration vendor to extract the data from the instrumentation and to determine the way that we would like the data displayed for further analysis.
- Our plant integration vendor was chosen due the positive history with the plant and in depth experience the architecture of our system (Process/Business side).



Hourly, Daily, Weekly Usage

Monthly Usage

Air Compressor and Steam Boiler Efficiency

Building 4 Monthly Electrical Usage

Production Processes

Various Utilities

Date Ranges

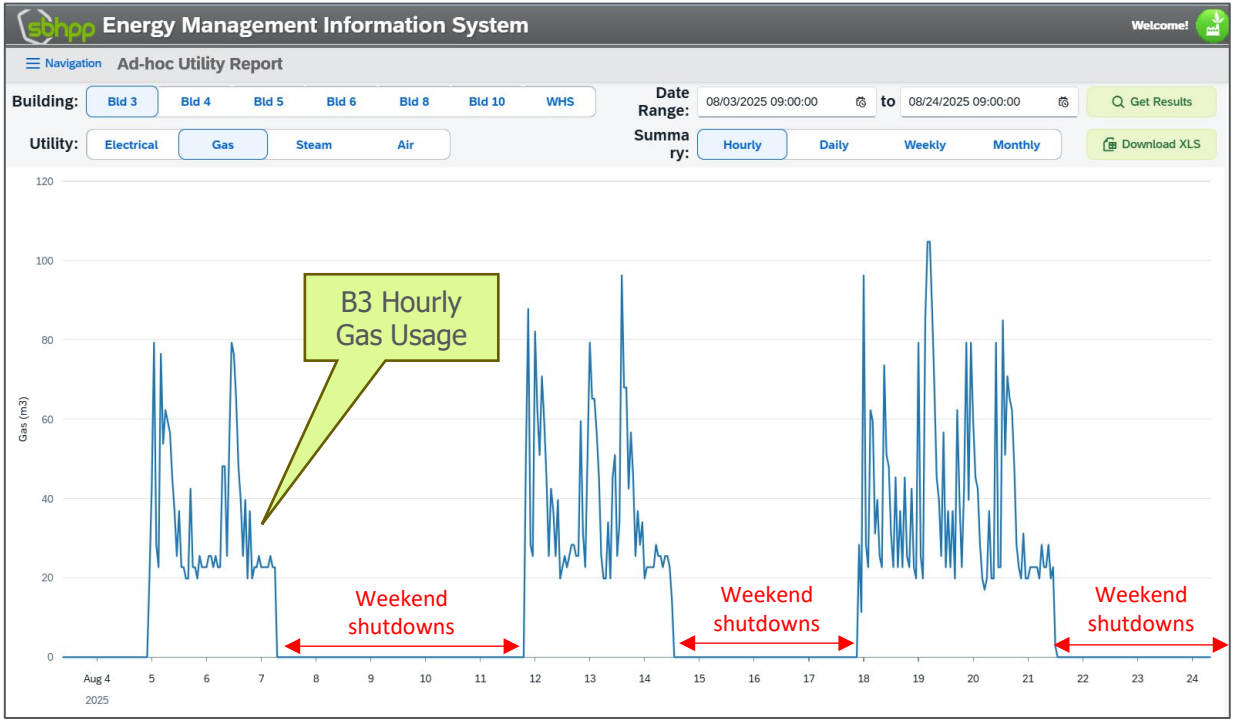
Ability to download the data to excel for further analysis

Electrical Usage

Production (lbs.)

Normalized Data: Usage divided by lbs.

Building 3 (Resin Production) Gas Usage (Hourly)

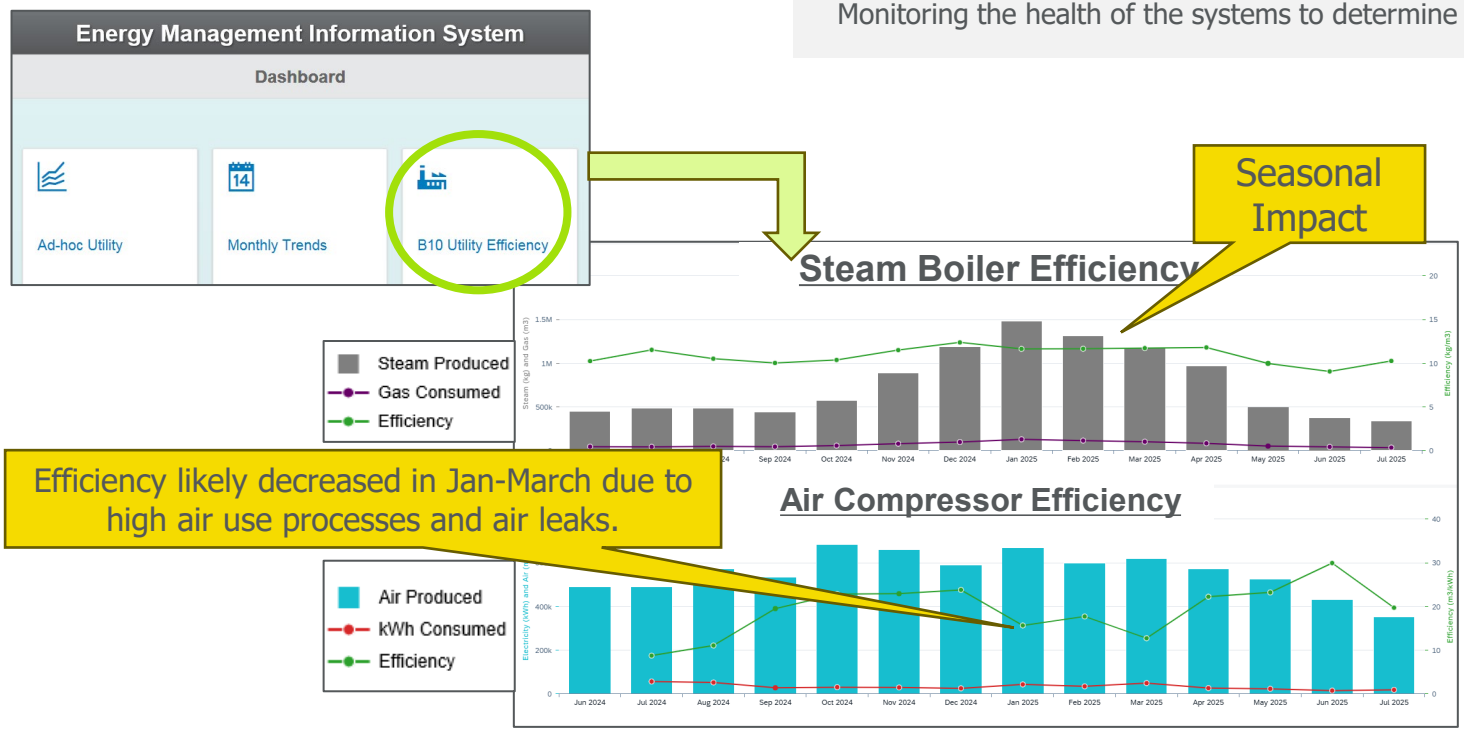


EMIS can be used to monitor usage while running or down to ensure energy efficiency.

B10 Utility Efficiency

Efficiency = Energy consumed (Gas/Electricity) vs Output (steam/compressed air)

Monitoring the health of the systems to determine when maintenance is required.

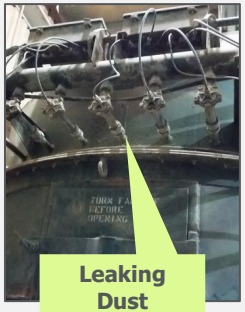


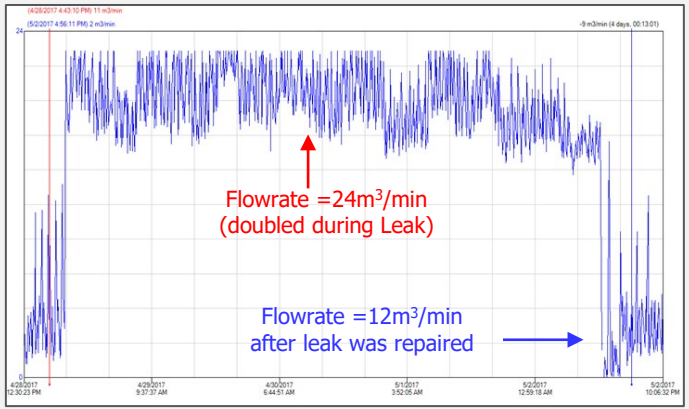
- Efficiency of both units may **increase** after scheduled preventative maintenance.
- Efficiency may **decrease** with various air or steam leaks throughout the plant.

Additional Benefits of Metering

Air and Steam Meters can have **appropriate alarm set points** in the process buildings for **early detection** and **immediate repair** by maintenance which is linked to **significant cost savings.**

Example below shows a detected air leak. Dust Collectors are used in our process to transfer material.





Cost Avoidance = $1,600 (CAD) extrapolating for 1 week.

Building 4: Piston Molding Compound

Recap

- Defining the Scope for Metering
- Selection of Instrumentation
- Integration to an EMIS Platform

Energy Management Information System (EMIS)

Planning and procurement

Plamen N.
Energy Manager (CEM) Director Board of Directors
E2F Systems

Start with why

Is there a problem? A gap? Something else?

Selling the EMIS

MORE DATA AND MORE SOFTWARE

MORE SAVINGS OR REVENUE

SPEND MORE TIME ON THE PROBLEM, THEN ON THE SOLUTION.

CLEARLY ARTICULATE THE ROI AND RISK OF INACTION

Think beyond the lights that were left on last weekend!

Tips and ideas

- **Has your company made sustainability commitments?**

EMIS can help reporting and management.

- **Can EMIS empower new revenue streams?**

For example, Demand Response and Global Adjustment mitigation.
How much time is your team spending chasing and managing demand peaks?

- **Are you paying for demand spikes?**

Interval data (1 hour or less) can identify spikes that create unnecessary costs.

- **Is your facility planning an expansion and need to monitor demand to** prevent exceeding the utility limit?

- **Are things running when they shouldn't be?**
- **Are you leaking air? gas? water?**

REACTIVE IS TOO LATE.
BETTER GET PROACTIVE.

KEEP IT SIMPLE AND RELEVANT.

BUT, PROCURE WITH THE FUTURE IN MIND…

FINALLY… A.I

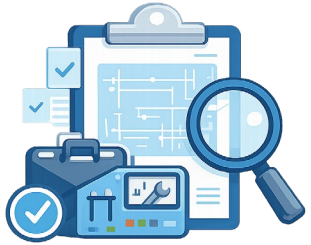
Energy Management Information System (EMIS)

Planning and procurement

Dave Fox
Principal and Founder
Quantify environmental ltd.

3 Key EMIS procurement decisions

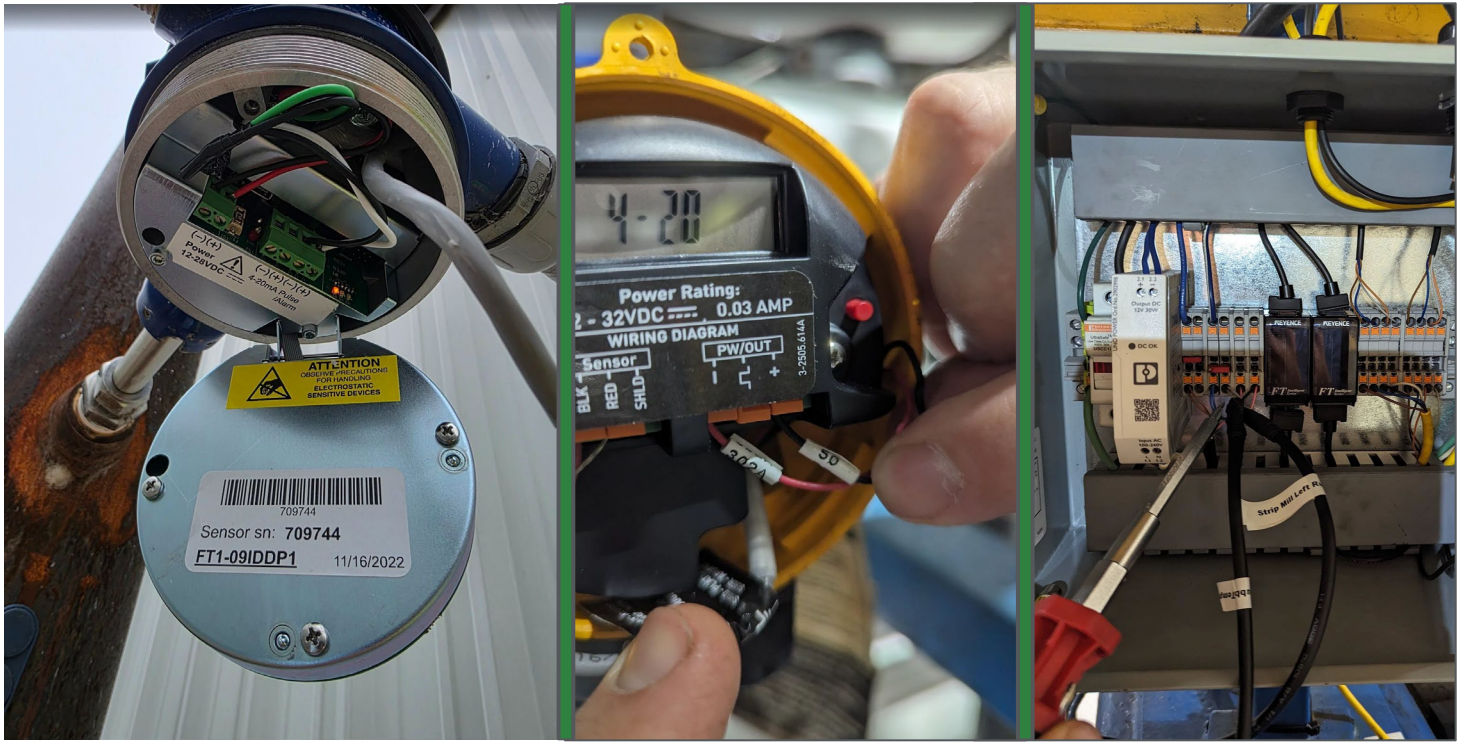
1)Turnkey delivery and early technical guidance
Ensure the provider conducts on-site technical assessments (TSA) , completes upfront system design, and delivers a clear project scope and proposal before installation.



2)Plant-wide integration and data centralization
Define required features that allow the EMIS to integrate existing meters, add new sensors, connect to APIs, and centralize data from machines across the facility.

3)Single-owner accountability and long-term partnership
Strongly consider a turnkey provider that delivers hardware, software, integration, and ongoing support under one accountable team.

Early technical guidance



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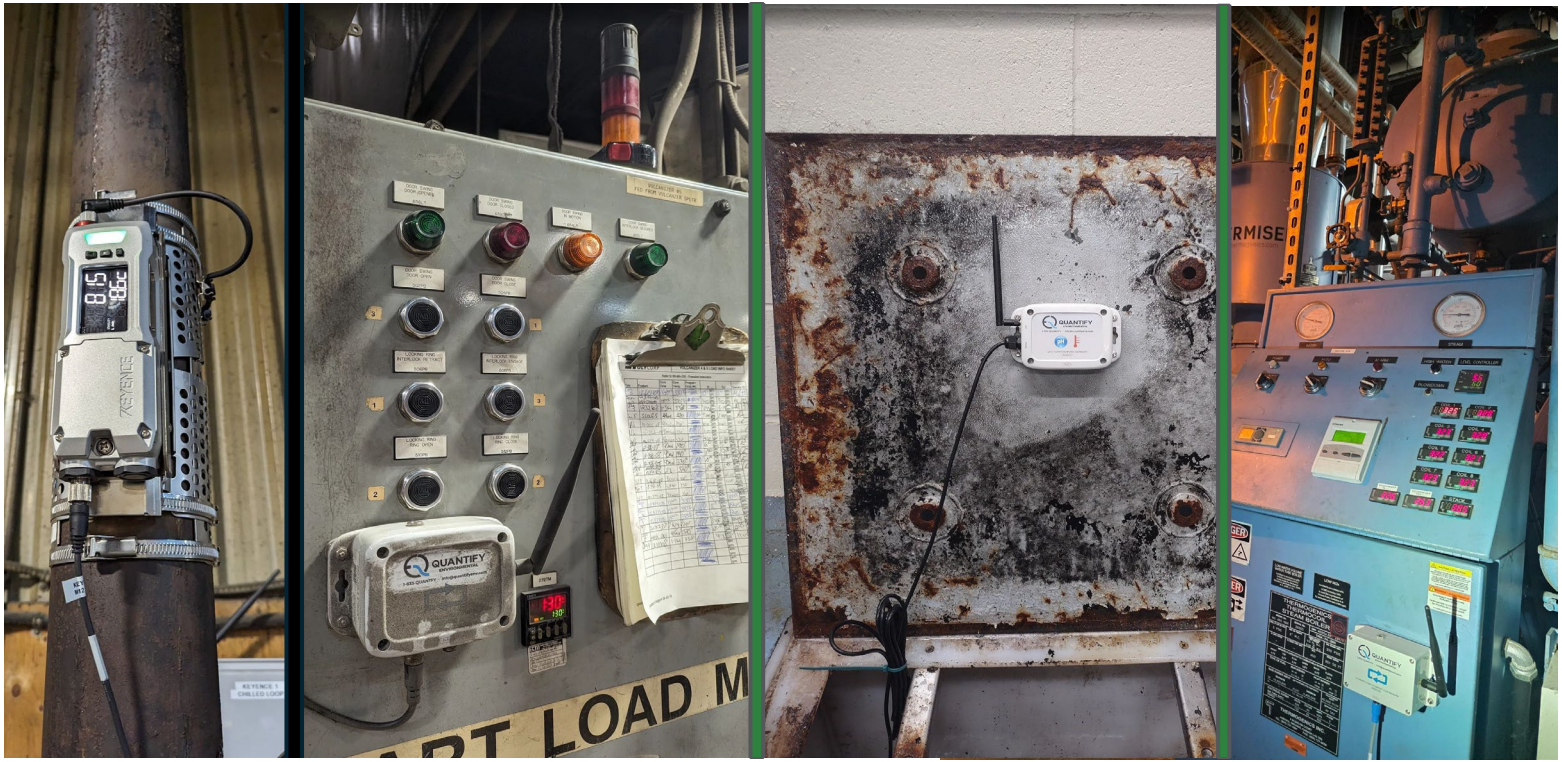
Plant-wide integration



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Long-range wireless sensors

Wireless sensors can reduce barriers to gathering a wide range of data

PROCESS/OPERATIONS

- Electricity (Current) – Mains and Sub-users
- Natural Gas – Mains and Sub-users
- Water/Liquid Flow – Mains and Sub-users
- Tank Level
- Pressure
- NIST Certified Thermometers
- Soil Moisture
- Light
- Water Detection (Flood Protection)
- Propane Tank Monitoring

PREDICTIVE MAINTENANCE

- Vibrations (XYZ)
- Temperature
- Current
- Structural Sensors (Linear Displacement)

ASSET MONITORING

- Motion/Occupancy
- Proximity/Ranging
- Accelerometers
- Open/Closed (Doors/Windows)
- Button Triggers
- GPS

AIR QUALITY

- Air Temperature
- Humidity
- Particulate Matter (PM 2.5)
- Carbon Monoxide
- Carbon Dioxide
- Hydrogen Sulfide
- Air Pressure
- Air Velocity

WATER QUALITY

- Temperature
- Electrical Conductivity (EC)
- pH
- Dissolved Oxygen (DO)
- Oxidation-reduction potential (ORP)

ANALOG SIGNALS

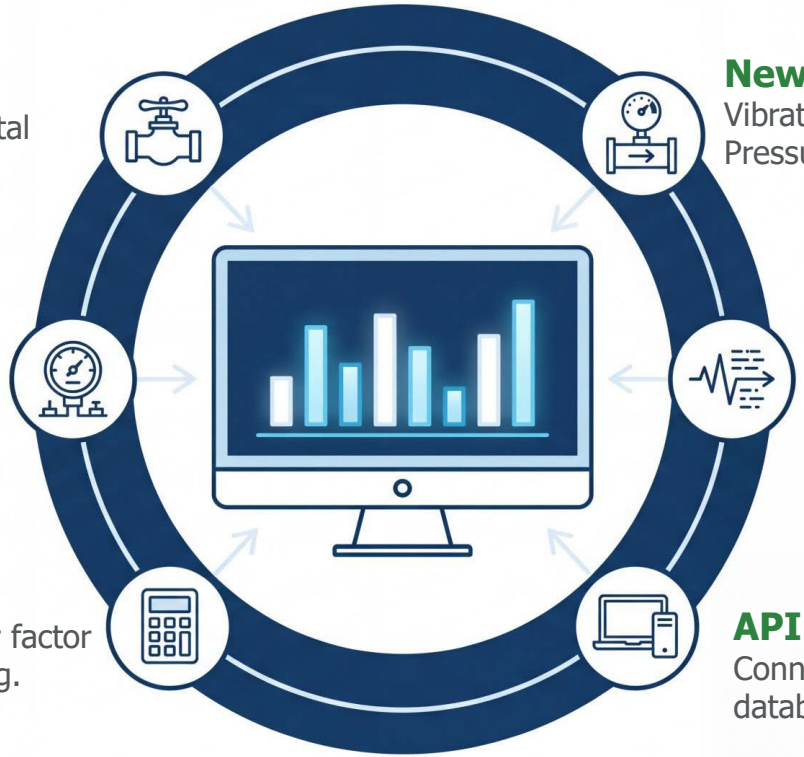
- Voltage (0-10 V)
- Current (4-20 mA)
- Pulse Output
- Dry Contact
- Pulse Frequency
- Modbus

Centralize your operational data

Municipal utility mains
Verify utility billing and track total facility usage

Legacy sensor retrofit
Digitize signals from existing analog devices (4-20 mA/0-10 V/Pulse/Modbus)

Power quality monitoring
Granular energy usage and power factor analysis via energy submeters (e.g. Schnieder Electric PM8000)



New instrumentation
Vibration, Temperature, Current, Flow, Pressure & pH Sensors, etc.

Existing PLC and SCADA
Ingest tags directly from existing automation networks

API and cloud connectors
Connect to ERP, Weather Data, or external databases or platforms

Consider integrated providers

Responsibility is fragmented between providers.

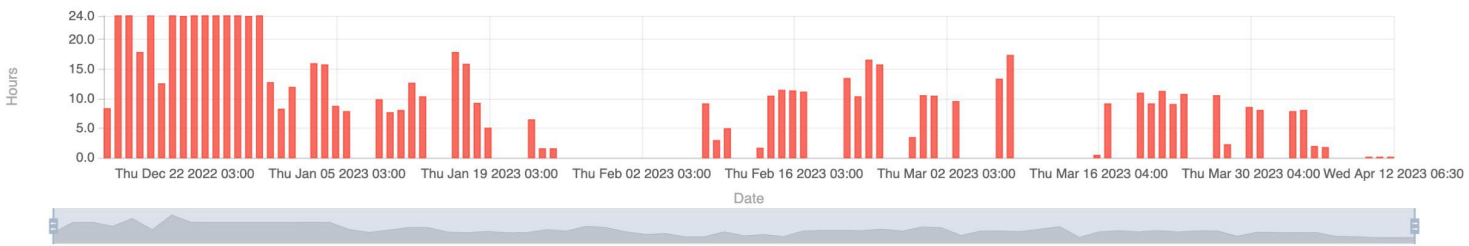
One accountable team owns the entire journey with monthly check-ins prevent data drift and drive continuous cost savings.

Single-owner accountability

Long-term trends: Air compressor optimization

Air Compressor Image

Daily Compressor Runtime Totals (Hours)

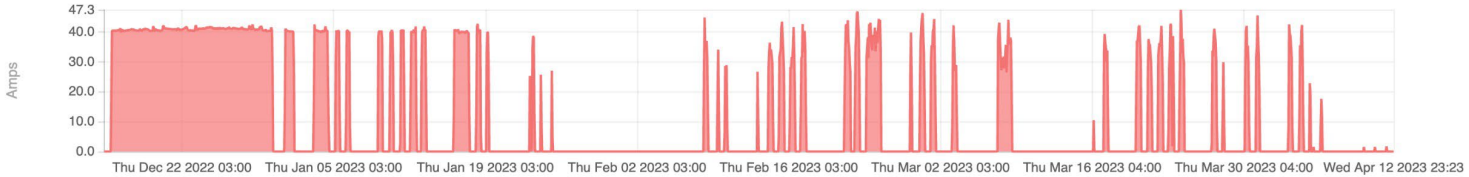


Air Compressor 1

Last value

0.0 Amps

Air Compressor 1 - Amps



Runtime Hours Saved Since January 1, 2023	Energy (KwH) Saved Since January 1, 2023	Money ($) Saved on Energy Since January 1, 202	GHG Emissions (kg CO_2) Saved Since January 1,
1,975 hours	**88,692** kWh	**14,146** $	**2,476** kg CO_2

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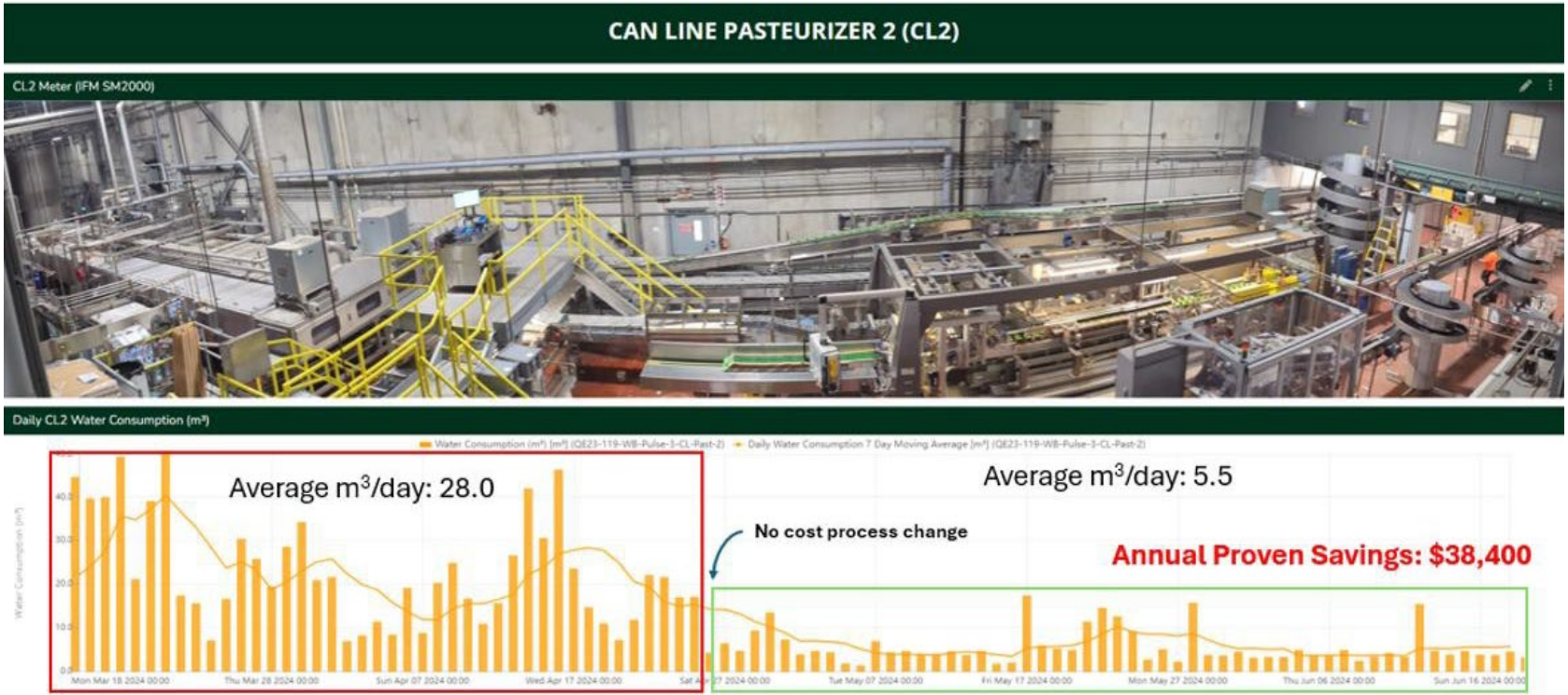
Proven savings through trends



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If you have questions, raise your hand or type in the chat!

EMIS funding is available!

The Expanded Energy Management Program from Save on Energy provides **up to $250,000** for the installation of an energy management information system. Funding is available until March 2027.

Save on Energy has expanded its Energy Management program offering for industrial facilities. Financial support is provided by Natural Resources Canada (NRCan) as part of its Green Industrial Facilities and Manufacturing Program.

Stay connected with tools and resources

- Virtual one-on-one coaching: post-webinar support intake form for tailored support for organizations to manage energy resources effectively
- Monthly bulletin: sign up to receive monthly training updates on all Save on Energy training and support for new tools and resources
- Live training calendar: visit this page to easily register for upcoming events and workshops
- Training and support webpage: visit this page to access all training and support materials

Join the Energy Management Community!

Get access to:

- **Online training**, courses, and other resources to learn how to improve energy management practices
- An **online discussion forum** to connect with peers and experts
- **Peer discussion groups** and meet-ups to share experiences and discuss challenges
- **Small group coaching** sessions to get guidance from experienced energy coaches

Registration is free!

For more information:
trainingandsupport@ieso.ca

THE ENERGY MANAGER'S PLAYBOOK

"I was listening to an episode on my way home from work and I had to turn it off because I was getting too many ideas that I wanted to listen to it at home where I could take notes."

-Allison

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