



# Energy saving with RtEMIS - A quick and simple EMIS solution built in top of the PI System

Presented by **Stephane Rioux, OSIsoft**  
**Pablo Asiron, RtTech**  
**Pat Burke, Flakeboard**



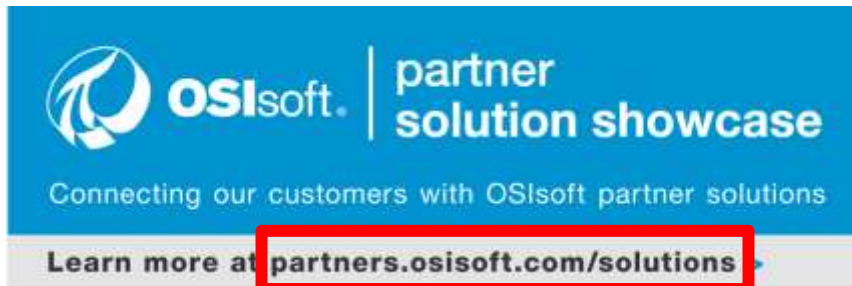
# Mission



**“Our mission is to maximize the Value our customers get from our product and services”**

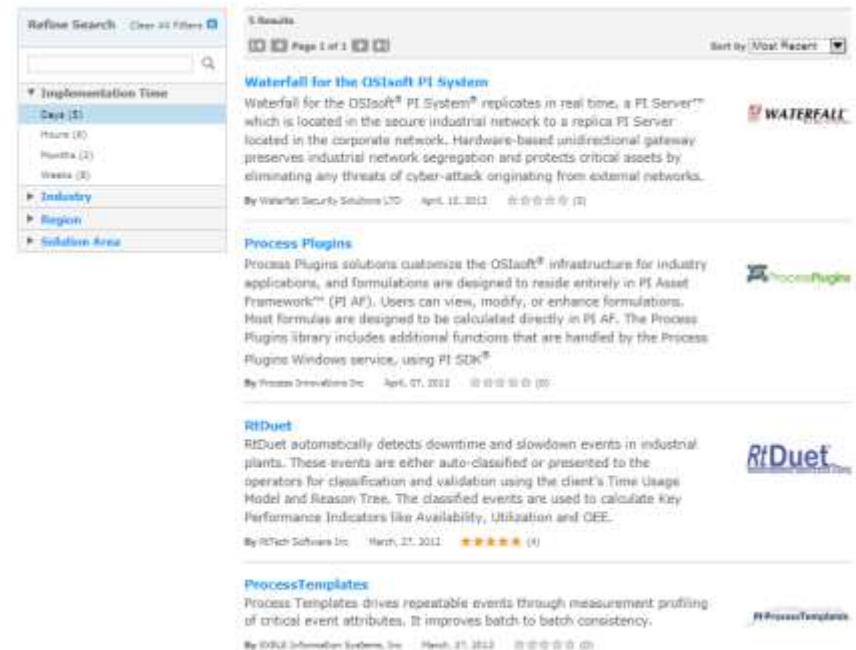
# OSIsoft® Partner Solution Showcase

- Find software solutions from OSIsoft partners with specific industry and domain expertise.
- <http://partners.osisoft.com/solutions>



**OSIsoft.** | partner solution showcase  
Connecting our customers with OSIsoft partner solutions  
Learn more at [partners.osisoft.com/solutions](http://partners.osisoft.com/solutions)

*pss@osisoft.com*



The screenshot shows a search results page on the OSIsoft Partner Solution Showcase website. On the left, there is a 'Refine Search' sidebar with filters for 'Implementation Time' (Days, Hours, Months, Weeks), 'Industry', 'Region', and 'Solution Area'. The main content area displays three search results:

- Waterfall for the OSIsoft PI System**: A solution for real-time replication of PI Server data between industrial and corporate networks. By Waterfall Security Solutions LTD, April 18, 2012.
- Process Plugins**: Solutions that customize the OSIsoft infrastructure for industry applications. By Process Innovations Inc, April 07, 2012.
- REDuet**: A solution for detecting downtime and slowdown events in industrial plants. By R/Tech Software Inc, March 21, 2011.
- Process Templates**: A solution for driving repeatable events through measurement profiling. By OSIsoft Information Systems, Inc, March 21, 2012.

# Presenters

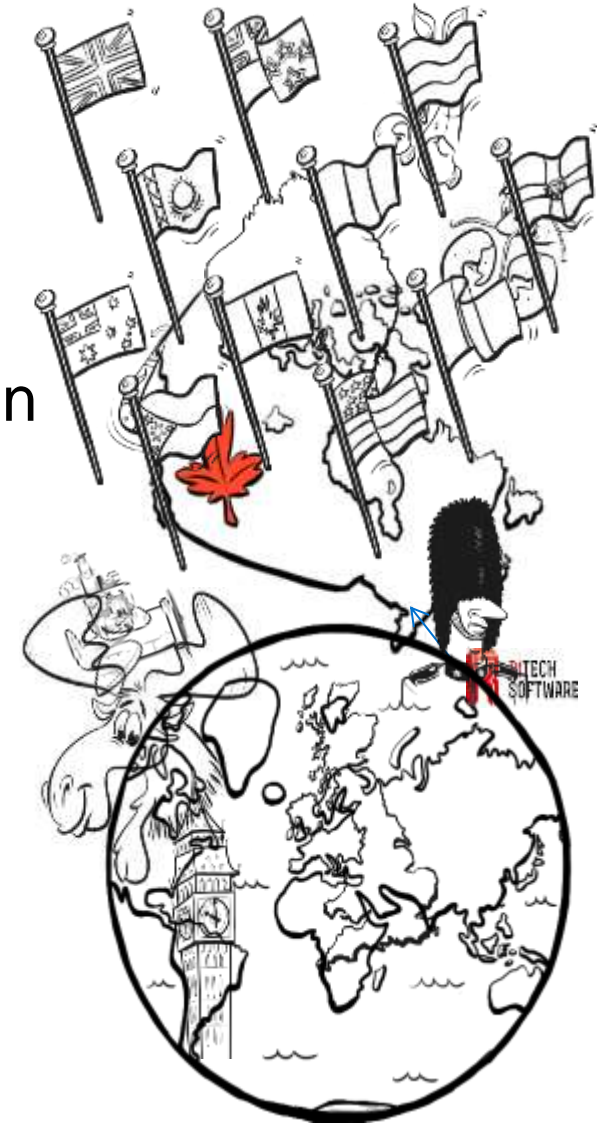
- Pat Burke,  
Flakeboard  
506-465-2836  
[pburke@flakeboard.com](mailto:pburke@flakeboard.com)
- Pablo Asiron, President  
RtTech Software  
506-232-3791  
[pablo@rttechsoftware.com](mailto:pablo@rttechsoftware.com)
- Stephane Rioux, Partner Principal  
OSIsoft  
514-493-8325  
[srioux@osisoft.com](mailto:srioux@osisoft.com)



# Energy saving with RtEMIS

# RtTech Software

- Creates Solutions to:
  - Improve Asset Effectiveness
  - Reduce Overall Energy Consumption
- Based in NB, Canada
- Sales Offices in Australia and UK
- Customers in 13 countries



# RtTech Software

- Developers of:
  - RtDuet: Downtime Monitoring and Maintenance & Reliability KPI calculator
  - RtEMIS: Industrial Energy Management Information System



# Why Monitor Energy usage

- Energy is typically one of the largest costs for any industrial site
- The first step to any Energy improvement is to measure and monitor Energy consumption.
- Convert Energy from a given expense to a controllable item.
- Reduce overall Energy usage:
  - Cost savings
  - Environmental reasons



# What is RtEMIS

- An Industrial Energy Management Information System that provides data infrastructure and software tools for:
  - ✓ Data Acquisition – independent of Control platform
  - ✓ Data Analysis – Performs calculations like target energy consumption and conversion of Energy usage to dollars
  - ✓ Reporting – Has a set of reports focused on Energy Accounting, Cost Break-down and Deviation of Energy Consumption from target. Extremely customizable to fit any reporting needs
  - ✓ Monitoring – Real-time monitoring of Energy Consumption by the type of Energy
  - ✓ Decision Support – Information customized for each user profile helps identify opportunities for Energy Reduction
- ***It turns metering data into actionable information to reduce Energy waste***

# RtEMIS Main Functionality

1. Identify areas where there is an overconsumption of Energy and alert the operator/managers
2. Automatically check the data integrity from the sensors before it is being used to calculate the target or total consumption.
3. Log the overconsumption events for analysis and correction.
4. Break Energy cost including Demand Electricity cost between the different areas accurately.
5. Extensive list of reports to turn Metering Data into Information.

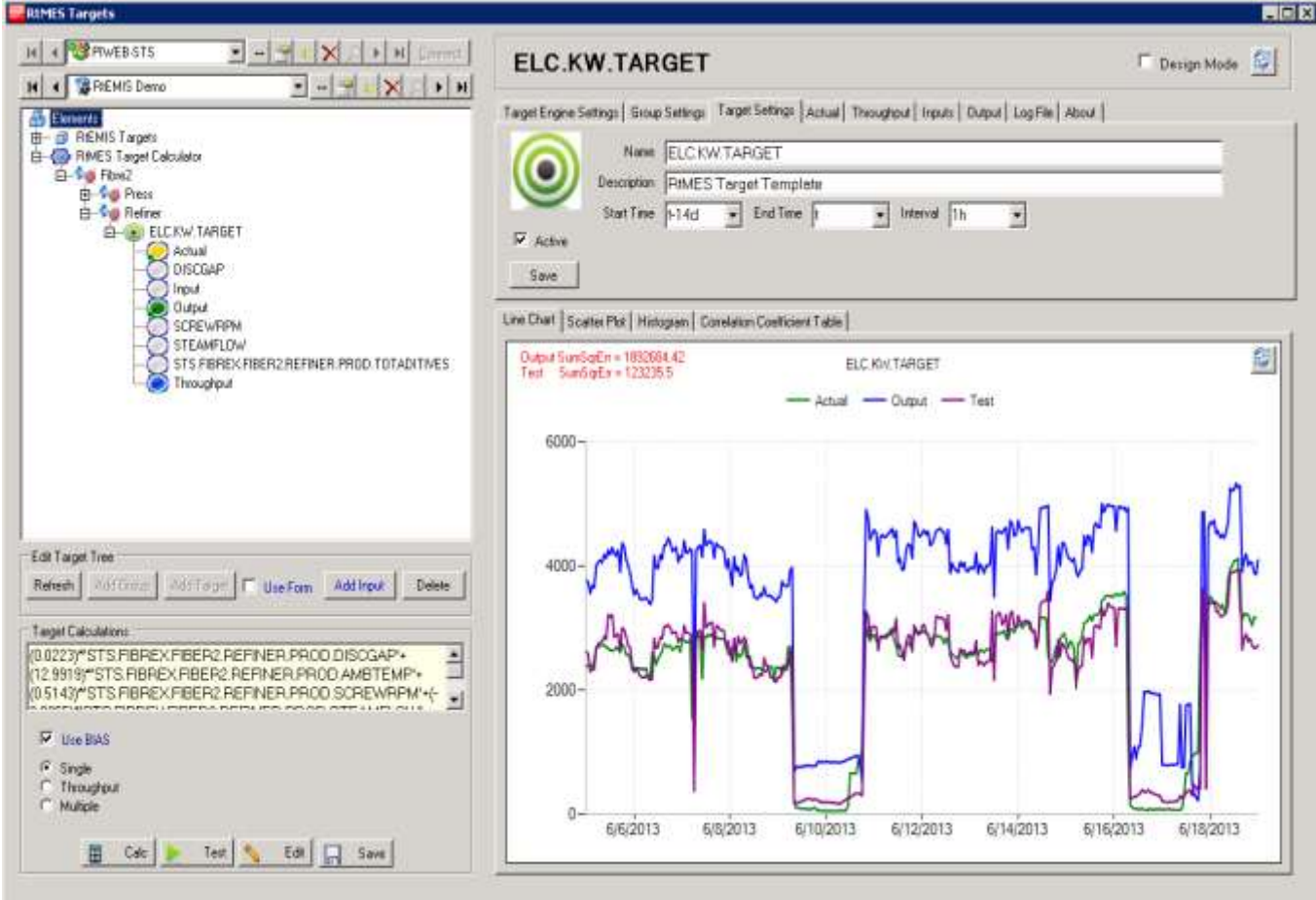
# Overconsumption of Energy

RtEMIS calculates the Target Energy Consumption for each EAC's Energy type in real time.

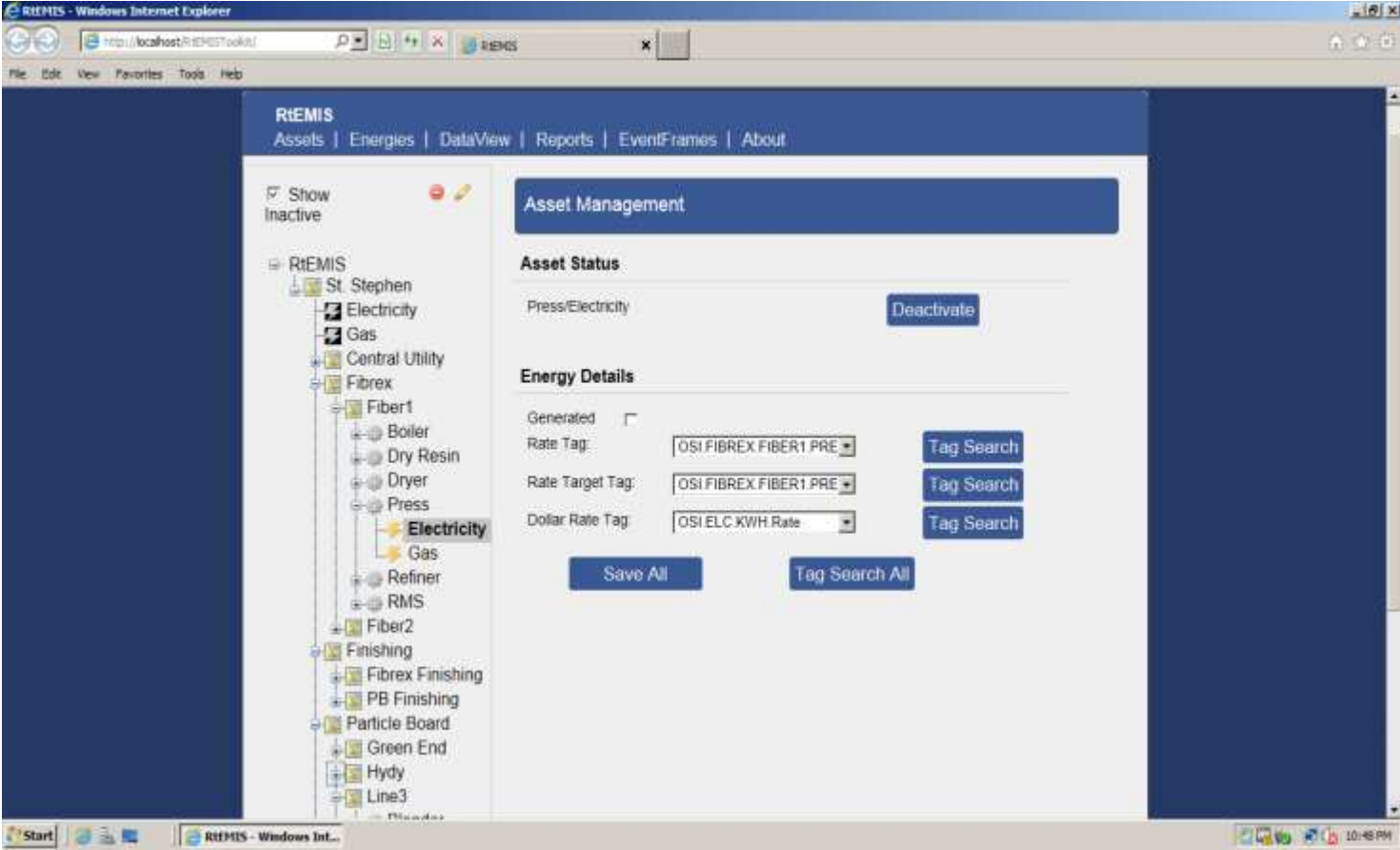
The target equation(s) can come from:

- RtEMIS Target Calculator
- First Principles
- Another system as long as the equation can be entered into PI Analytics or the results of the Target equation can be accessed by the PI System

# RtEMIS Target Calculator

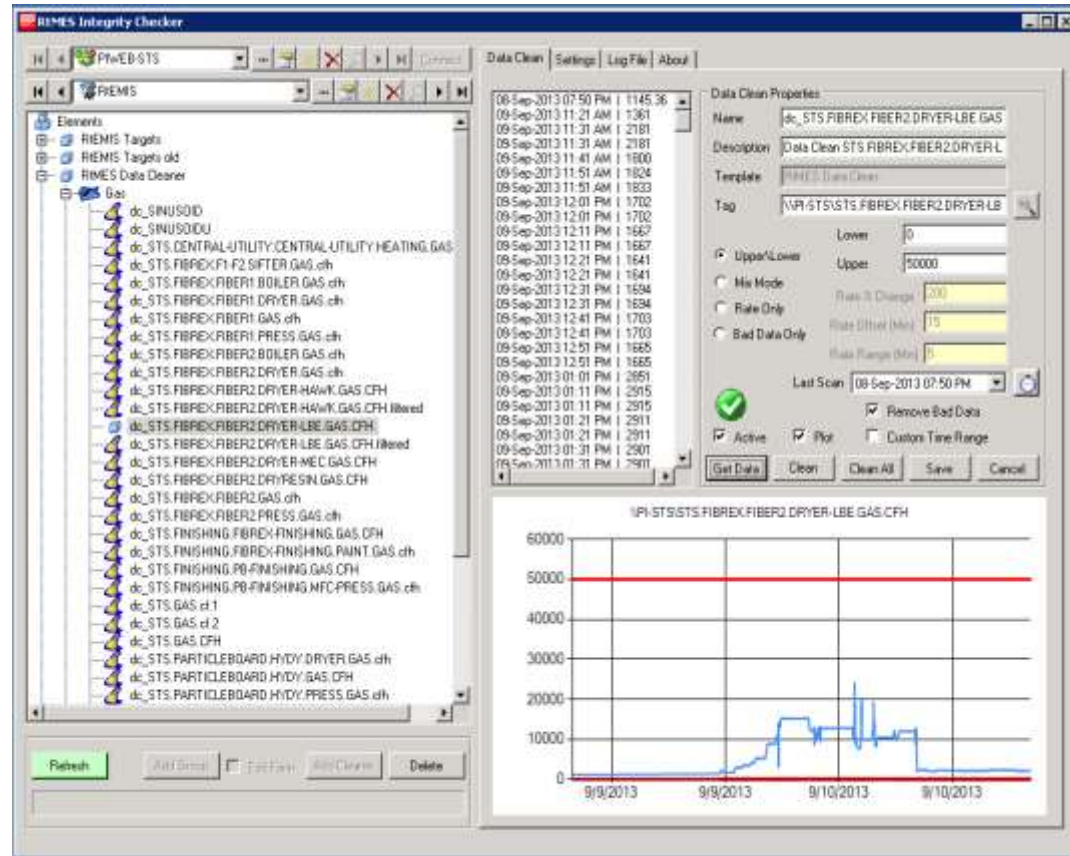


# RtEMIS Target Calculator



# Data Integrity Checker

RtEMIS has a module that monitors the sensor data and removes spikes due to instrument error.



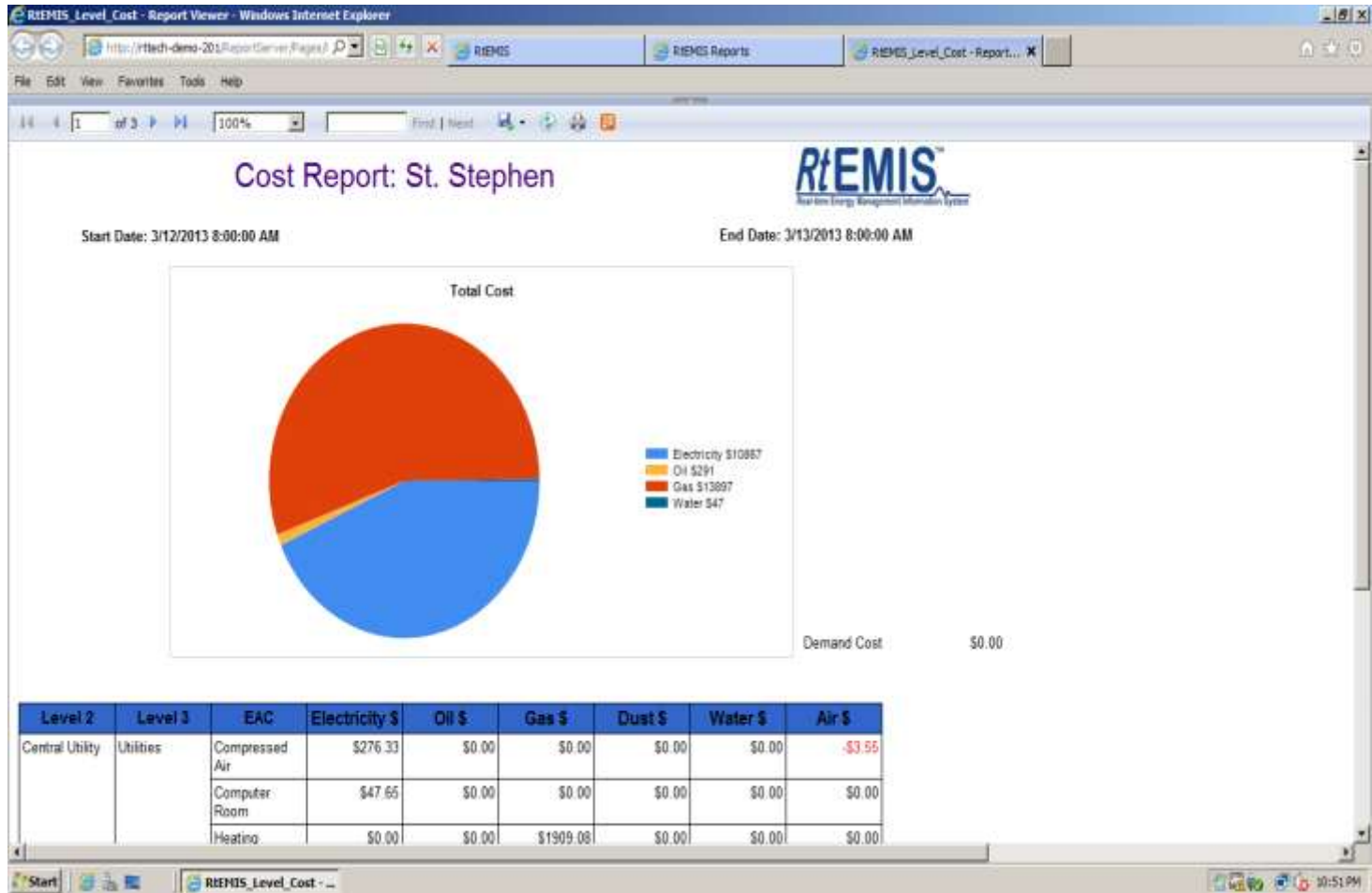
# Overconsumption events logging

RtEMIS has a module based on RtDuet to log any Energy overconsumption event



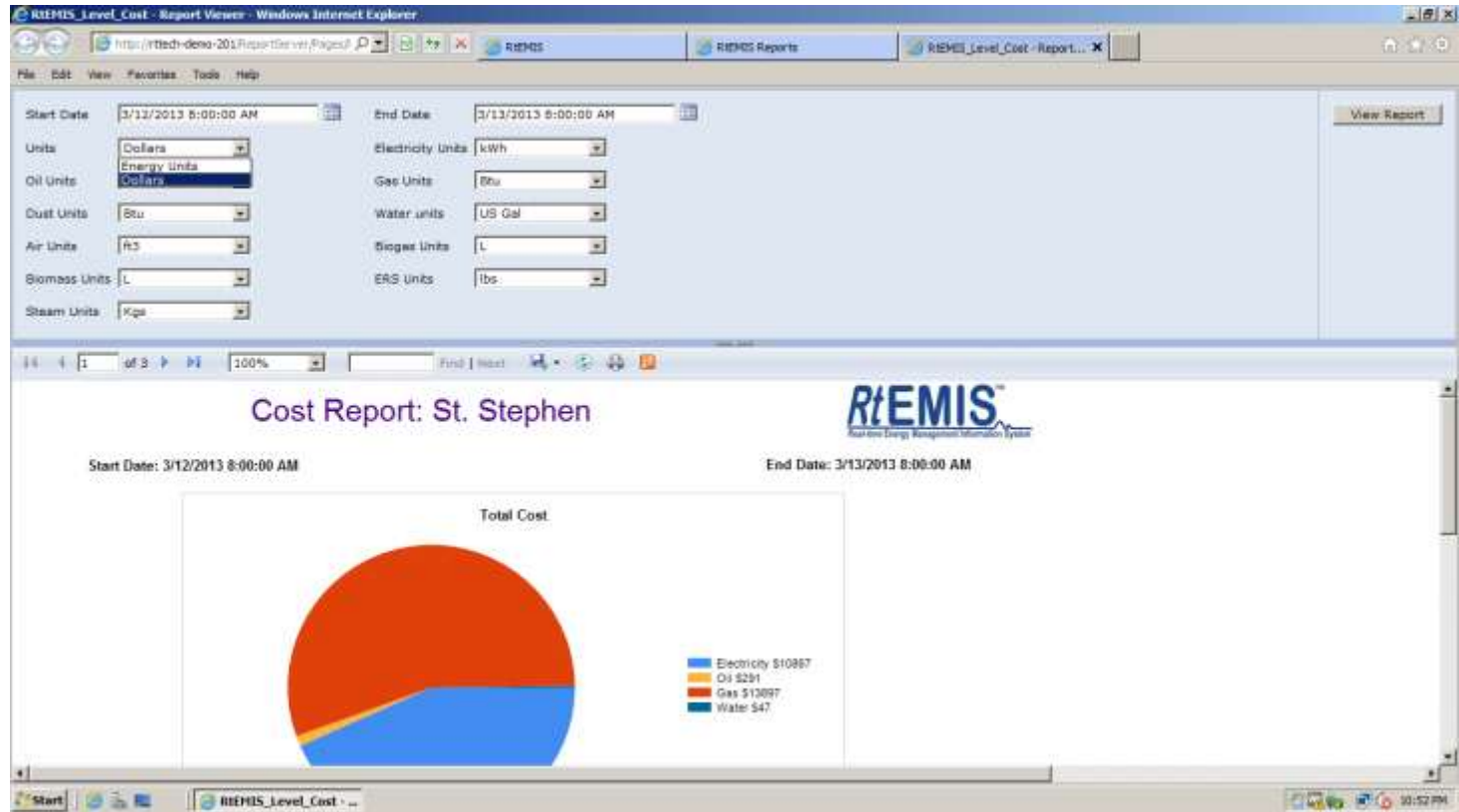


# Break Energy cost

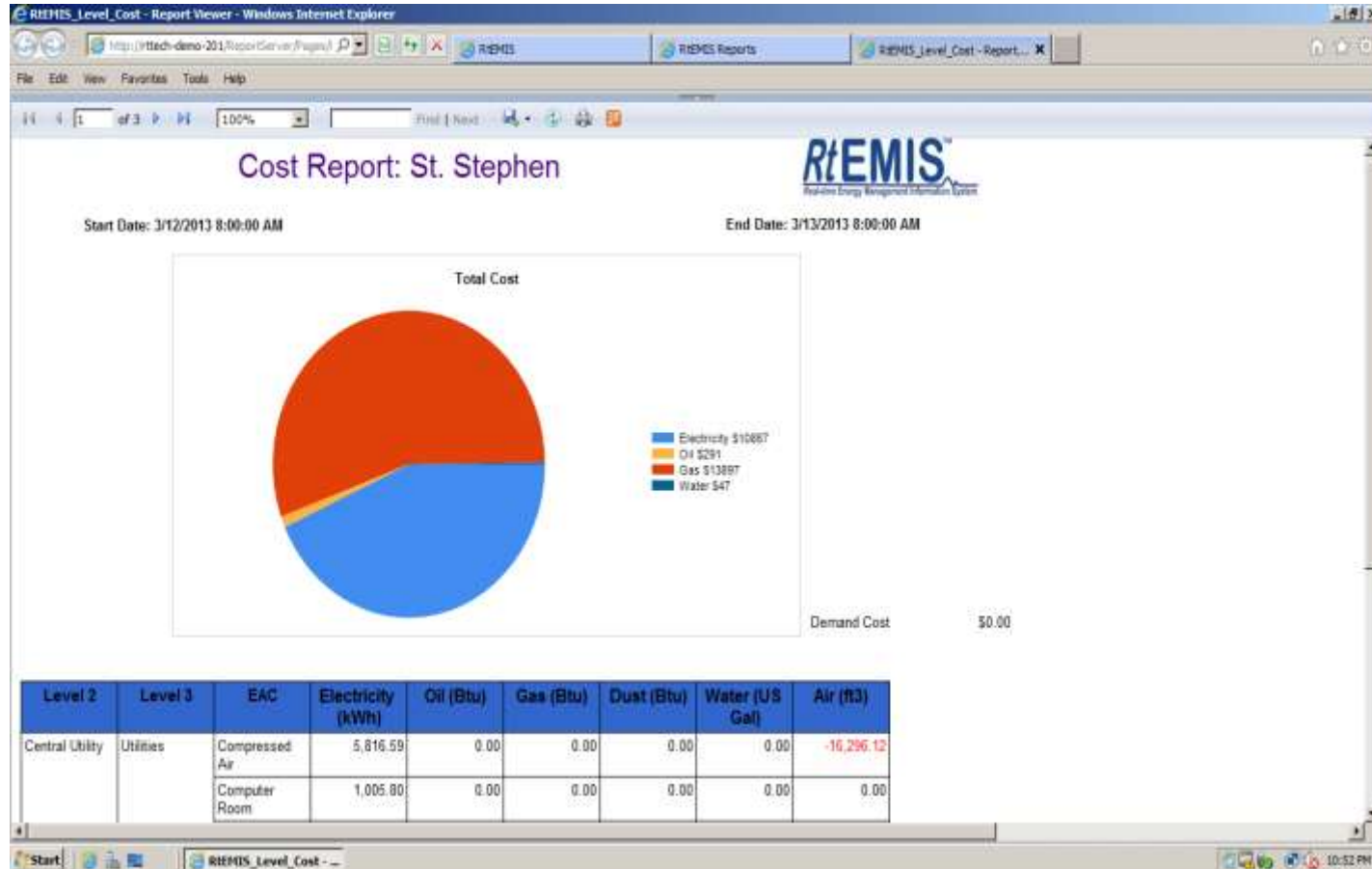




# Break Energy cost



# Break Energy cost



# Reports

Extensive list of reports based on NRC EMIS guide or “blue book”.

Pat Burke will show some of the reports in his demo

# RtEmis use case

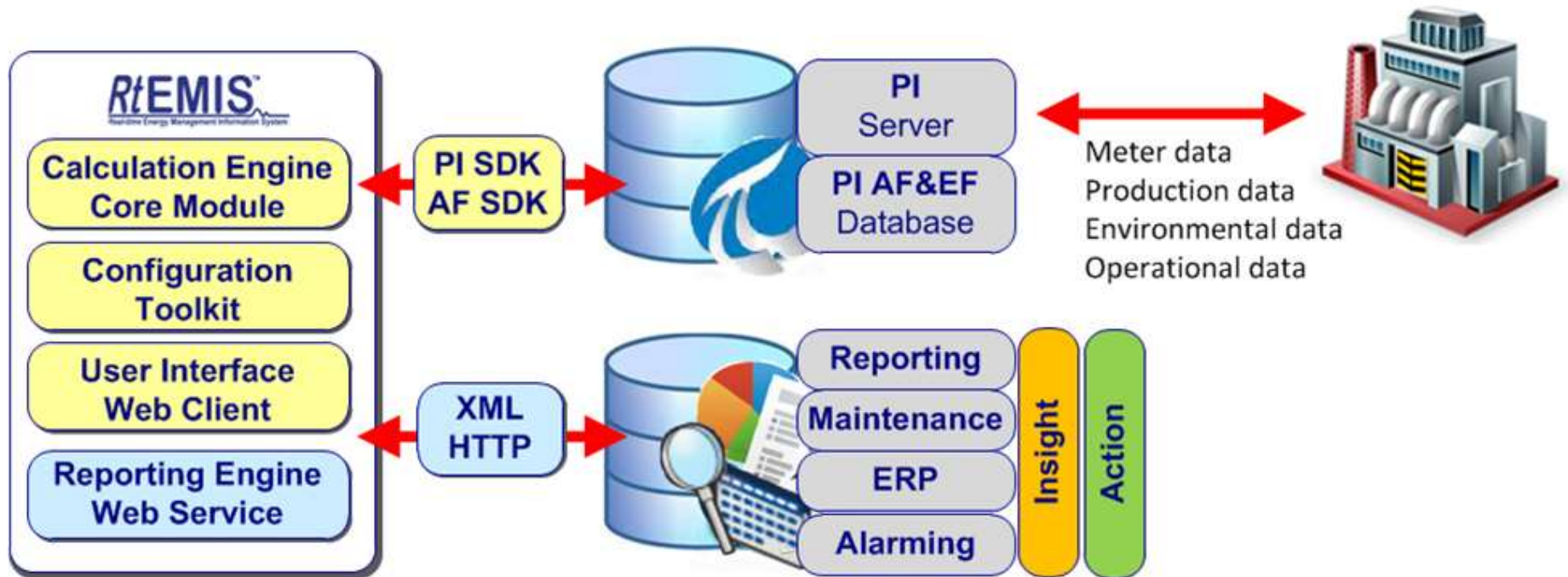
# Flakeboard Profile



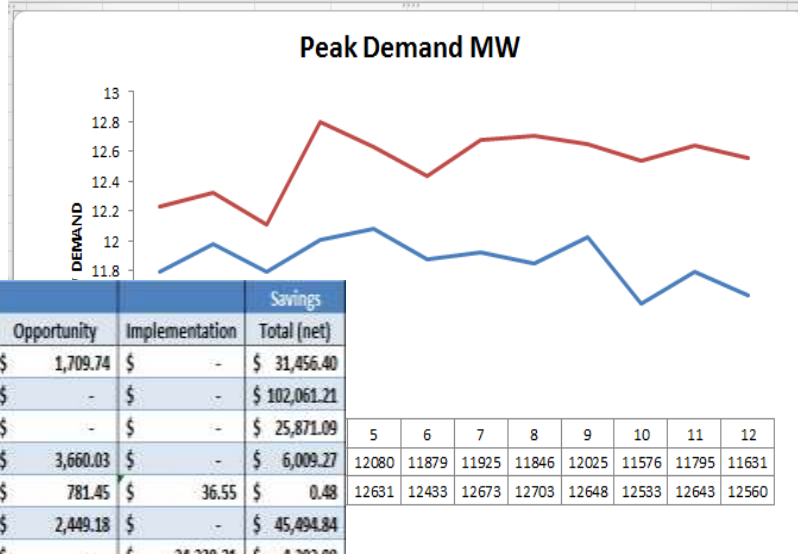
- Incorporated in 1960, Flakeboard is an industry leader in the production of quality composite wood panels with 8 facilities in Canada and the US
- The St. Stephen facility employs continuous panel production technology on three particleboard lines, two thin MDF (Medium Density Fibreboard) lines providing Flakeboard with a product range second to none.
- Over 80% of the products shipped from this facility are further upgraded with value-added finishes such as melamine, decorative paper, direct print or paint, in hundreds of different colors and patterns.



# Solution



# Solution



Project	Nov			Dec			YTD		Savings		
	Implementation	Savings	Opportunity	Implementation	Savings	Opportunity	Implementation	Savings	Opportunity	Implementation	Total (net)
Kimwood Sander Bag House Fan	\$ -	\$ 2,321.80	\$ 296.73	\$ -	\$ 2,739.80	\$ 33.39	\$ -	\$ 31,456.40	\$ 1,709.74	\$ -	\$ 31,456.40
Make-up Air System	\$ -	\$ 5,071.92	\$ -	\$ -	\$ 22,779.14	\$ -	\$ -	\$ 102,061.21	\$ -	\$ -	\$ 102,061.21
Splits of Offline Sander	\$ -	\$ 2,220.22	\$ -	\$ -	\$ 2,078.83	\$ -	\$ -	\$ 25,871.09	\$ -	\$ -	\$ 25,871.09
York Chiller	\$ -	\$ 456.48	\$ 247.48	\$ -	\$ 633.18	\$ 272.59	\$ -	\$ 6,009.27	\$ 3,660.03	\$ -	\$ 6,009.27
Berg Chiller	\$ -	\$ 4.87	\$ 67.38	\$ -	\$ -	\$ 184.34	\$ -	\$ 37.03	\$ 781.45	\$ 36.55	\$ 0.48
Mende Konus	\$ -	\$ 2,766.34	\$ 572.65	\$ -	\$ 4,387.38	\$ -	\$ -	\$ 45,494.84	\$ 2,449.18	\$ -	\$ 45,494.84
Lighting	\$ 1,883.00	\$ 4,838.00	\$ -	\$ 5,525.00	\$ 5,225.94	\$ -	\$ 2,886.00	\$ 28,542.10	\$ -	\$ 24,239.21	\$ 4,302.89
Diefenbacher Heating	\$ -	\$ 318.94	\$ 275.41	\$ -	\$ 486.07	\$ 305.05	\$ -	\$ 3,998.63	\$ 2,953.62	\$ -	\$ 3,998.63
Wemhoner Heating	\$ -	\$ 89.84	\$ 698.64	\$ -	\$ 709.02	\$ 359.34	\$ -	\$ 4,341.82	\$ 5,327.46	\$ -	\$ 4,341.82
Line III Dryer Oil		\$ 10,098.00			\$ 6,800.00			\$ 137,036.00	\$ -	\$ -	\$ 137,036.00
Demand Savings		\$ 10,245.56			\$ 12,558.24			\$ 113,062.92	\$ 1,382.44	\$ -	\$ 113,062.92
<b>Total</b>	<b>\$ 1,883.00</b>	<b>\$ 38,431.95</b>	<b>\$ 2,158.29</b>	<b>\$ 5,525.00</b>	<b>\$ 58,397.59</b>	<b>\$ 1,154.70</b>	<b>\$ 2,886.00</b>	<b>\$ 497,911.32</b>	<b>\$ 18,263.92</b>	<b>\$ 24,275.76</b>	<b>\$ 473,635.56</b>
Demand Budget		12,664.00			12,664.00						

- Flakeboard significantly lowered total energy consumption by changing practices and behaviours.
- Industry standard is 3 – 10% savings for an EMIS System
- Our Initial EMIS Audit suggested 3.2% savings, Flakeboard actually achieved a 6.6% reduction overall energy reduction in 2012, well exceeding expectations and we have removed approximately 1.5MW of electrical demand

# Demonstration



# Questions

# Webinar Recordings

You can watch previously recorded  
Partner Solution Showcase Webinars  
at <http://partners.osisoft.com/solutions>

# Partner Solution Showcase Webinar Series

Date	Title
November 6, 2013	The MEGLA Performance Equations Analyser

For the complete list of  
OSIsoft upcoming events:  
<http://www.osisoft.com/events>



# Thank you

© Copyright 2013 OSIsoft, LLC.  
777 Davis St., San Leandro, CA 94577