



Energy Saving Consultation

Need to find solutions to:

- Track and analyze energy use and generation in real-time
- Detect, diagnose, prioritize, and control anomalies based on cost savings
- Allow facility teams to be extremely efficient operationally and save time
- Extend life of mechanical systems
- Reduce risk and high costs of potential downtime due to equipment failures
- Track ROI of retrofit measures and capital investments
- Present data to key stakeholders through customizable reports



Management Looks for:

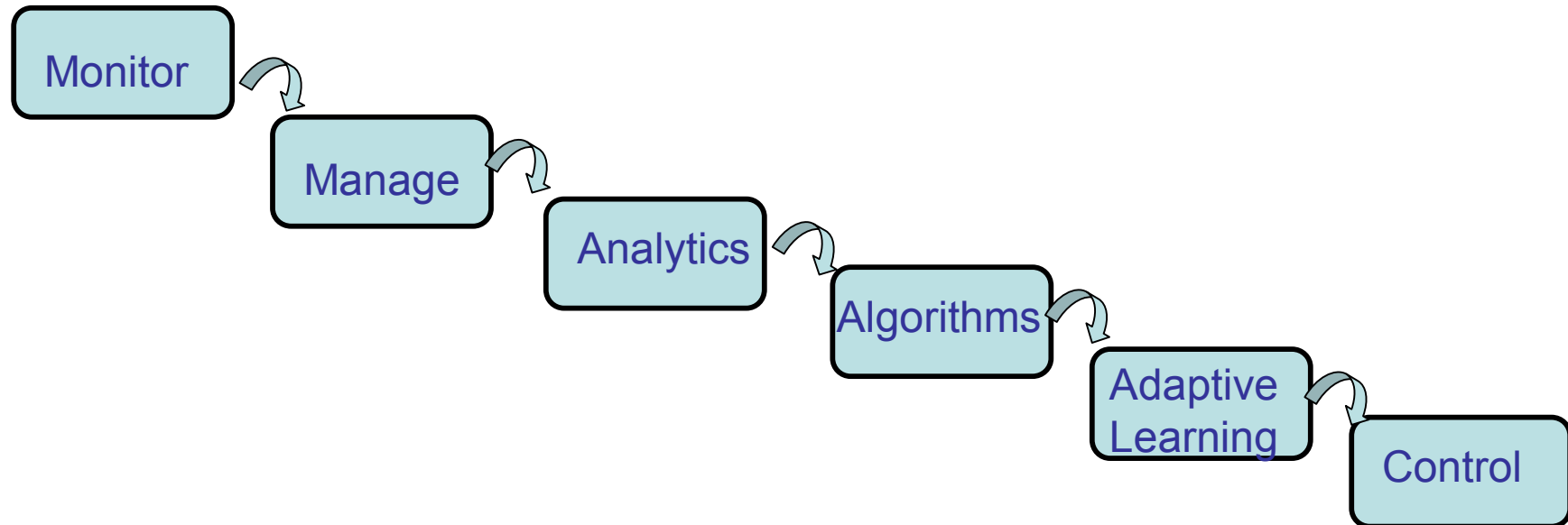
Highly Customizable

Policy Manager: Set policies according to energy performance or cost ranges – at building, zone, or equipment level. Policies can be based on any energy variable, cost benchmark or range (currency or percentage), and according to behavioral settings, such as occupancy.

Fully Automated Control: Customers have the option to set a control policy for automatic action and scheduling. Or, notifications can be set for any policy, for manual review and where automated control policies are not available.

Alerts and Reporting: Notifications can be delivered via SMS or email, delivering alerts and straightforward recommendations to optimize and cut energy usage. Customers can set notifications for any frequency – real-time, daily, weekly, monthly – and per individual users.

Total Energy Saving Solutions



Energy Saving Methods

Direct retrofit of light source – replacing light source only

Advantages: simple and easy to install without modification to existing fitting, no electrician required under all situation.

Disadvantages: Higher light source cost than normal

Direct retrofit of fitting – replacing the whole fitting

Advantages: One to one replacement

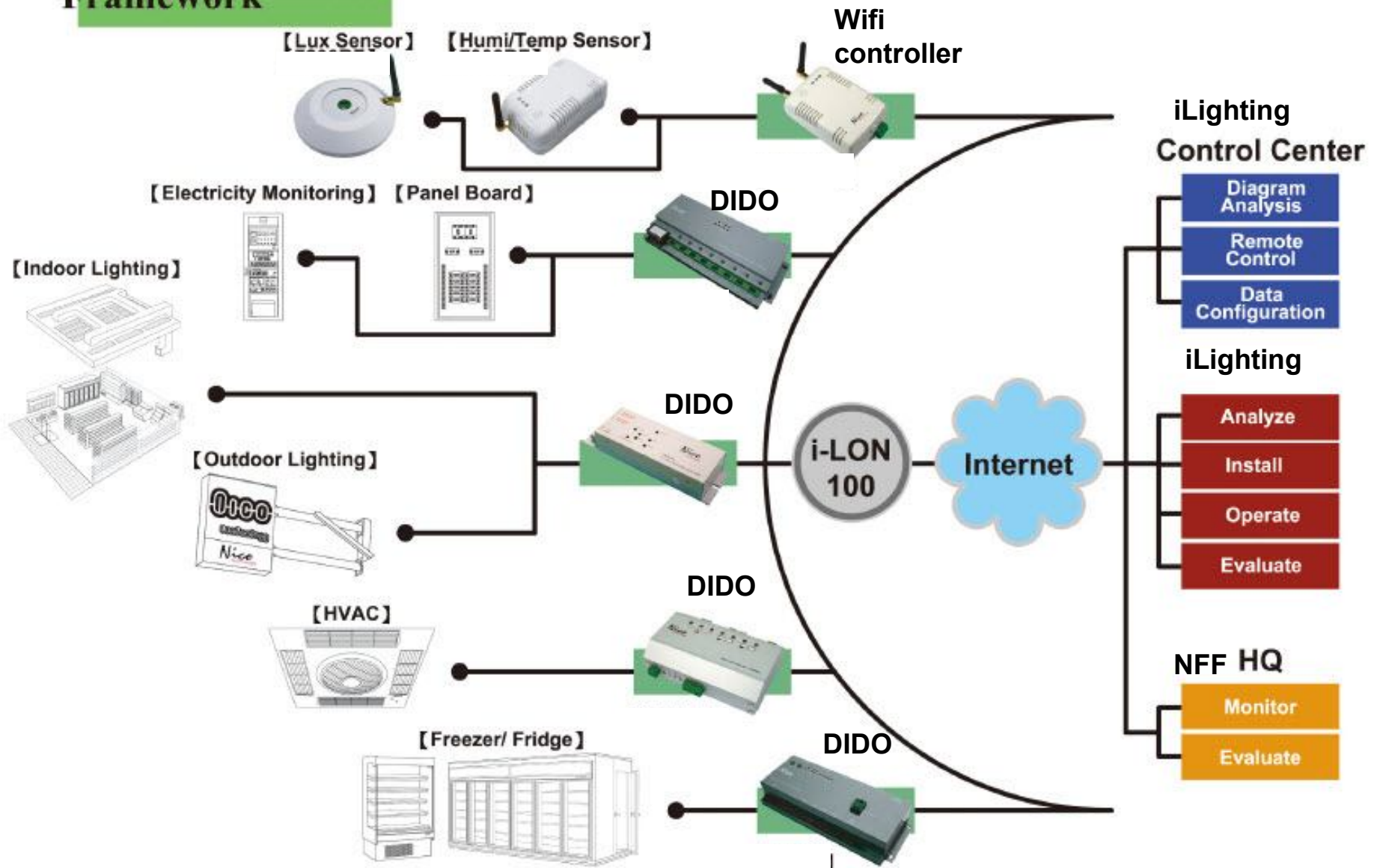
Disadvantages: rewiring and connection by electrician, installation cost is high.

Energy Saving Methods

Efficiency Improvement By Intelligent Building Management system

Intelligent micro-processor controls bring all systems and equipments on the same platform where it can centralize the monitoring and even control of on the operating processes by remote operation on the company network. It can automate and control those operations in the most energy efficient ways by precise sensing and logical control algorithms set out by management.

With built in sensing module at each operation nodes, human errors can be minimized and hence speed up the time for decision making.



Energy Saving Methods

Efficiency Improvement By Intelligent Building Management system

Operations of different systems are pre-scheduled to suit occupancy or process requirement under complicated situations such as turning down the motors of pumps, fans and compressors at turning down at low demand and then increasing speed when demand occurs again.

Persistent commissioning

Rule-based controls

Advanced analytics

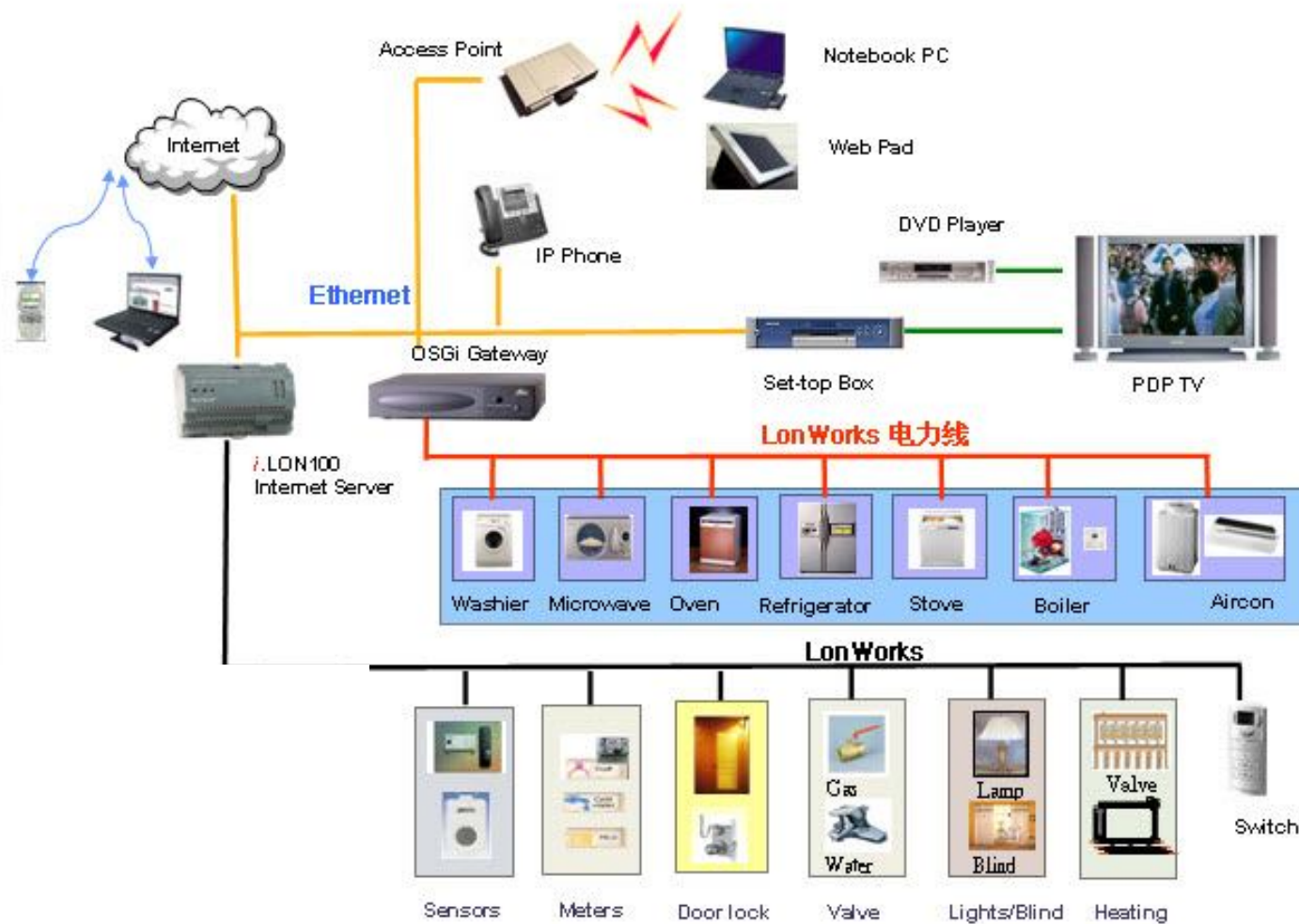
Cut energy costs

Reduce downtime

Optimize energy usage



Home Automation System

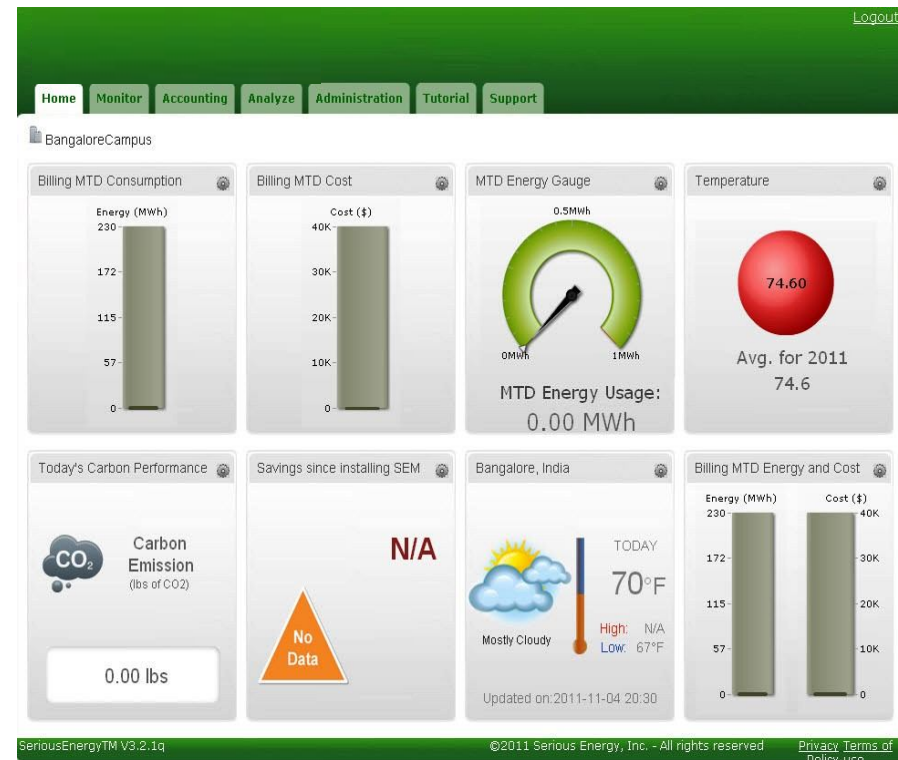


Energy Saving Approach

Our Approach For Energy Management Consultation

- Assess client's needs through an energy survey
 - a combination of advanced Smart Metering & Real Time Energy Displays show exactly what's happening to energy behaviour
- Use real time analyzing tools to predict the trend of usage.
- Identifying all saving opportunities in:
 - Cost Saving
 - payback
 - long term investments
- Recommend the best course of action
- Assist client to implement the solutions
- Set up Monitoring & control Centre to guard the energy saving results.

Monitoring & Control Centre

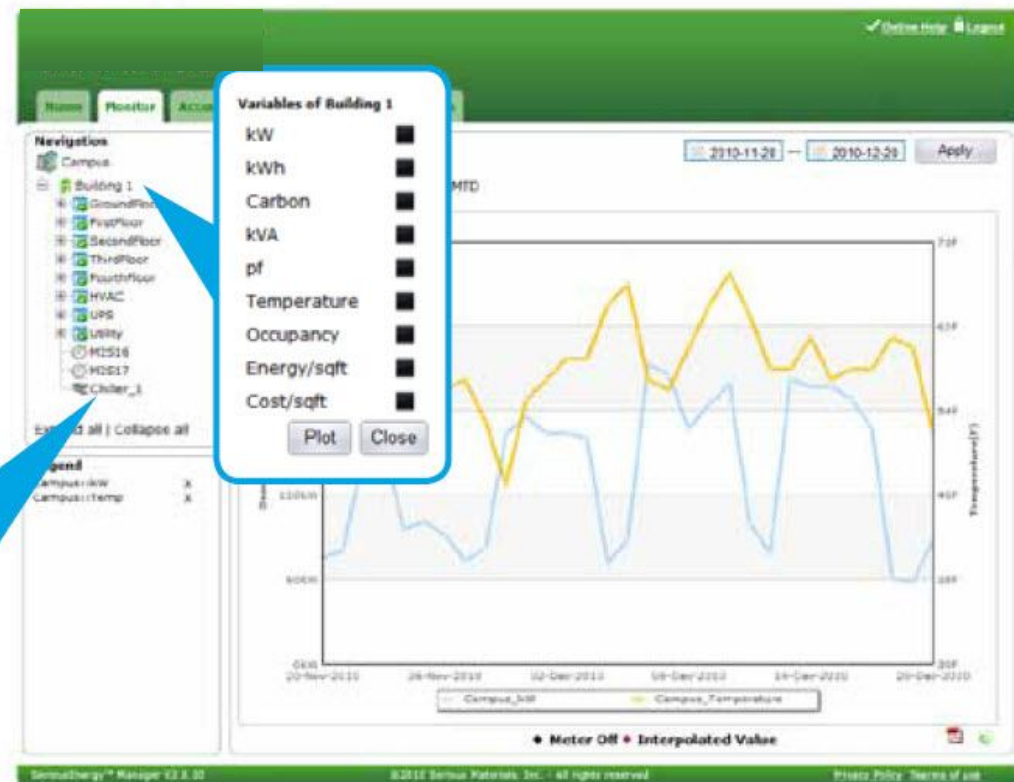


Trend analysis

Energy Trends Analysis

SeriousEnergy Manager gives you the power to drill into your building's energy usage over any time period. Identify not only any abnormalities, but also sensor issues throughout a building that may lead to missing data points or errors in meter readings. In these cases, SeriousEnergy Manager automatically corrects these values for accurate interpolated values you can count on.

See energy usage for any building or asset, according to any energy variable you choose. Select variable to plot against. For example, plotting outside temperature and energy demand (kw) can identify if economizers are set to maximize use of free cooling. Customers are alerted to check on stuck dampers preventing economizer function.



Cost Analysis

Real-Time Cost Analysis Per Building, Per Asset

Quickly determine the areas of highest energy consumption and cost, so you can focus energy savings measures where savings impact will be the greatest - by zone, load, or over any time period.



Equipment Capacity Management

Equipment Capacity Management

Set capacity thresholds for individual equipment, monitor as nearing capacity, and compare month-to-month energy usage – all within one single view. Alerts can be set according to thresholds, making it easier to manage equipment capacity and avoid overage.

Monitor >> Performance Report >> Cost

Asset	Spent Properties			Total Cost
	SqFt	\$/sqft/yr	\$/yr	
Building 1	10000	\$ 0.99	\$ 9854	\$ 496
Building 2	30000	\$ 1.63	\$ 48773	\$ 2861
Building 3	6243	\$ 0.95	\$ 5985	\$ 337
Building 4	11968	\$ 1.95	\$ 23174	\$ 1159
Building 5	9772	\$ 1.34	\$ 13099	\$ 661
Total	67983	\$ 1.47	\$ 99805	\$ 5214

Compare Total Energy Costs: Powerful performance reporting compares total energy cost per square foot.

Monitor >> Performance Report >> Power

Asset	Capacity kVA	Yearly Peak		Average Power Factor		Load kVA
		kVA	kW	% Year	% Month	
Building 1	2636	2338	3255	95%	100%	1110
GroundFloor	527	466	1052	73%	58%	416
LeftWingG	264	414	923	75%	62%	115
RightWingG	264	431	441	71%	54%	207
FirstFloor	527	1223	2027	81%	76%	904
TactLab	500	1190	2002	86%	90%	860
LeftWing1	264	260	228	92%	80%	69
RawPower11	100	49	92	72%	85%	7
LightingL1	100	22	32	95%	97%	18
HVAC11	100	160	207	94%	57%	56
RightWing1	264	484	915	84%	58%	131
SecondFloor	527	272	495	67%	59%	238
ThirdFloor	527	493	454	82%	57%	145
FourthFloor	527	362	527	64%	62%	174
UPS	1500	47	87	89%	90%	47
Utility	1000	729	378	48%	31%	83
Total	2636	2338	3255	95%	100%	1110

Expand all Collapse all

Cost
Capacity
Power

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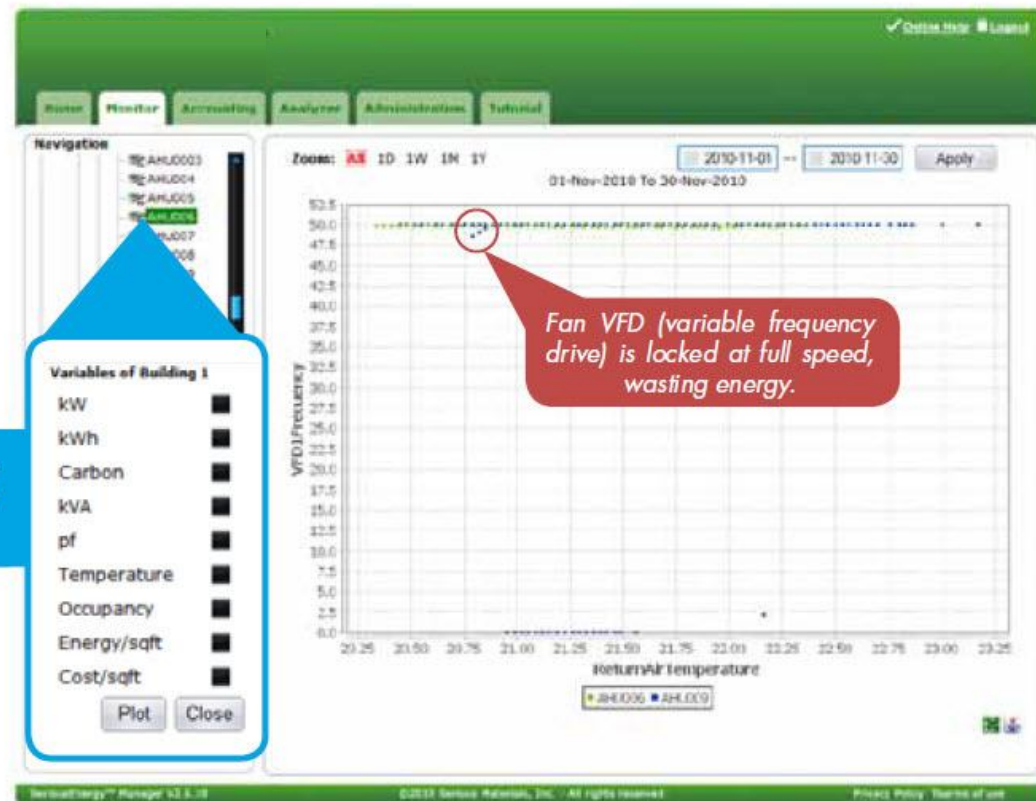
Equipment Fault Monitoring

Detect & Control Equipment Malfunction in Real-time

Scatter Plotting Interactive Applet

Gain flexible, detailed insight into any equipment to maintain performance. Set up alerts to be notified of any anomalies if equipment performs out of set ranges or establish rule-based automated controls. Alerts will identify and give straight-forward action recommendations to adjust the malfunctioning components within the equipment.

Facility managers can track real-time performance of any equipment by plotting any combination of two energy variables.



Corporate Budget Management

CFOs know that maximizing energy efficiency can be considered permanent energy savings, with the potential of providing cost savings well into the future. In many cases, few areas in a firm's expense structure have as much cost savings opportunity as energy efficiency. Investments in programs like energy management are evaluated by a CFO, just like any other investment. SeriousEnergy Manager results in direct savings and more efficient use of energy dollars. The platform is also a powerful solution to help evaluate and measure the financial merits of energy efficiency projects such as simple payback period, ROI, and NPV. SeriousEnergy Manager continuously identifies opportunities for profit improvements through cost savings – with better energy accountability, visibility, and management.

Manage Your Budget

Set your budget for a particular building, tenant area, or across your entire building portfolio, and easily track budget vs. actual vs. forecasted energy usage over time. Actual budget is based on the current rate of consumption, localized and accurate tariff information, and the total projected budget based on current consumption. The projected budget bar on the graph will change from blue to red if it exceeds the planned budget.

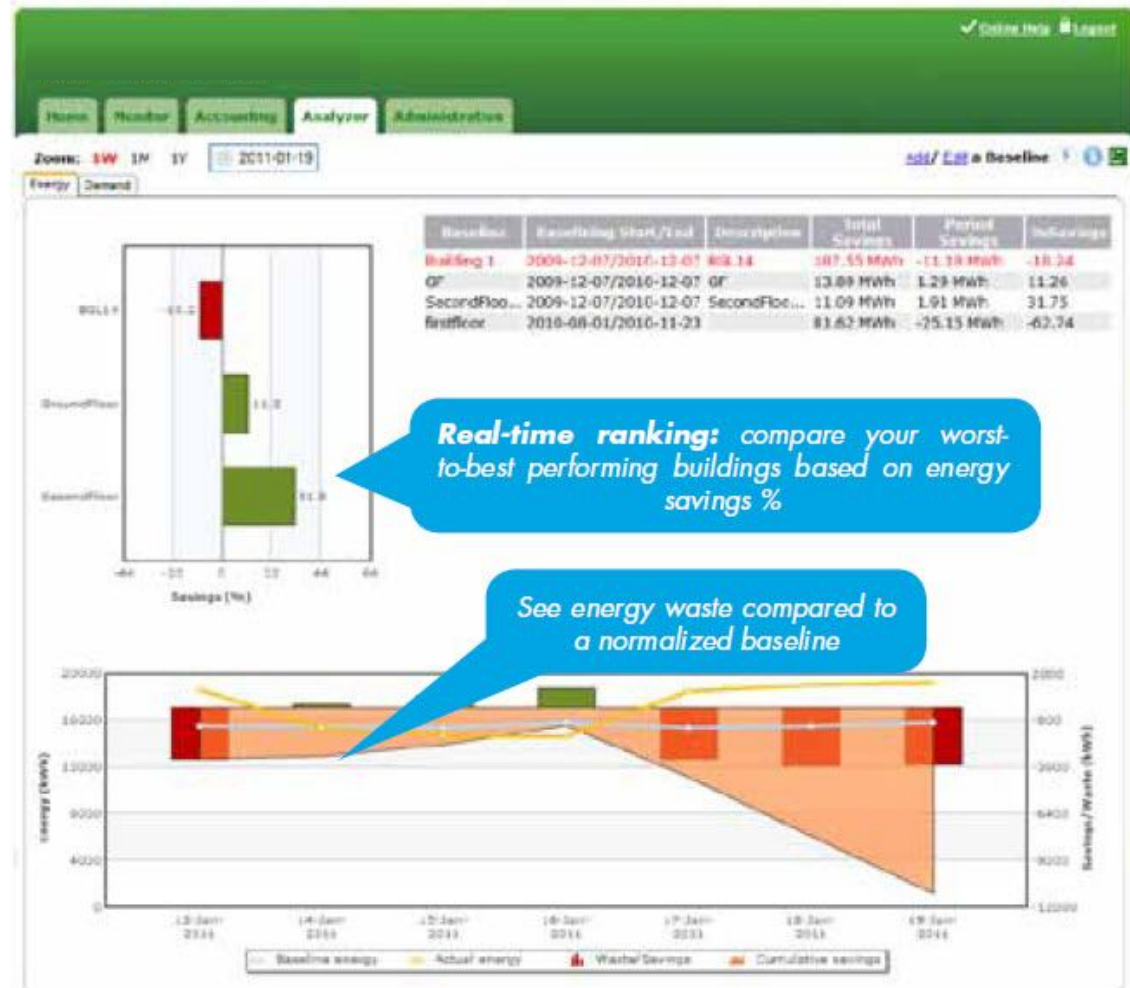


Energy Efficiency analysis

Efficiency Analyzer

Accurately measure the savings impact of energy efficiency improvements

The Efficiency Analyzer compares actual energy consumption against your custom baseline model to continuously monitor and determine whether buildings or individual equipment are increasing or decreasing energy performance. You can more efficiently measure and verify whole building performance and the energy savings impact of your efficiency improvements. SeriousInsight proprietary algorithms incorporate historical energy, temperature, and occupancy scheduling to create highly accurate baseline models for dependable measurement and verification.



Peak Demand Forecasting



Peak Demand Forecasting

Prioritize load-shedding and better maximize incentives from demand response programs

Forecast energy demand based on historical data, scheduled occupancy, and external temperature data. You can also simulate "what if" scenarios of the impact of higher or lower temperature predictions by increasing or decreasing predicted temperature.

Indicates maximum demand predictions exceed the maximum demand for the billing month already incurred on this day.

Energy Management Policy Formation

Policy Manager

Configure policies and notifications to make efficiency and savings easy and achievable

The Policy Manager gives you custom, comprehensive control over equipment and building operations to keep your building and operations as efficient as possible. Policies can be set per building, down to individually metered equipment or energy-source system. For example, administrators use the Policy Manager to:

- **Establish baselines per asset:** over any time period for any metered equipment, you can set energy usage parameters for any individual asset, including EPA rating targets
- **Control temperature set points:** establish rules per equipment to turn off or turn down at certain set points
- **Manage your own demand response:** over any period of time, based on occupancy or temperature, establish policies to automatically turn systems on or off

For any policy, facility managers can assign privileged access for users to manually over-ride set controls. Where automated controls cannot be assigned for a policy, alerts and notifications can be assigned to unique SeriousEnergy users.

Event Filtering

When: All | Duration: All | Classification: All | Asset: All | Urgency: All | Notification: All

Last Occurrence	Duration	Description	Asset	Urgency	Notification	Savings (Yr)
11/4/10: 3:15PM	4.5 hrs	Gateway Connection Lost	Multiple	Alert	SMS/Email	
11/4/10: 2:30PM	3 hrs	EC Temp Exceeded	Multiple	Alert	SMS/Email	\$1506.00
11/4/10: 4:00PM	1 hr	Data Error	Multiple	Alert	SMS/Email	
11/4/10: 5:00PM	1 hr	Flow Release	Asset A	Alert	SMS/Email	\$2250.00
11/3/10: 4:30PM	3 hr	Lighting Schedule Violation	Asset B	Warning	SMS/Email	\$945.00
11/3/10: 5:00PM		Cooling Setpoint Exceeded				

Real Savings

Policy Violation

Policy Administration

Serious Administration

Advanced settings for comprehensive analysis and controls

Simple set-up screens allow for easy input of data that are fed into SeriousInsight™ analytics engine and provide for granular user settings, alerts management, and policy settings.

Occupancy Scheduler: Specify occupancy of a building and specific areas within each, such as tenant spaces or departments, over time. This information is used for off-hour analysis to identify anomalous energy usage and other trending and analysis.



Administration >> Tariff Schedule Configuration

Create New Plan ☐ Edit Existing Plan ☒ Tariff Plan: CCS-T01

Details:

Plan Name: Start Date: End Date: Description:

Weekend/Holiday Charge Details:

TOU	Start Time	End Time	Shape Charge(\$/kWh)	Demand Charge(\$/kW)
Off Peak	00:00 - 05:00	05:00 - 06:00		
Off Peak	06:00 - 08:00	08:00 - 09:00		
Off Peak	09:00 - 10:00	10:00 - 11:00		
Off Peak	11:00 - 12:00	12:00 - 13:00		
Off Peak	13:00 - 18:00	18:00 - 19:00		

Weekday Charge Details:

Tariff Scheduler: Browse available tariff plans that can be used to describe their energy costs. Tariffs are applied to assets and are based on local utility rates.

Settings for data output ensure accurate monthly and yearly thresholds, baselining, and localized data output such as currency and carbon calculations.

System Settings

- ☒ Currency
- ☒ Zipcode
- ☒ CarbonConstant
- ☒ Timezone
- ☒ Temperature_Unit
- ☒ Demand Gauge
- ☒ Email
- ☒ Energy Interval
- ☒ Solar Max Limit
- ☒ MTD Energy Gauge
- ☒ Tier 1
- ☒ Tier 2
- ☒ CFASettings
- ☒ MTD Gas Gauge
- ☒ MTD Water Gauge

Edit Occupancy Schedule

Building: Start Time: End Time:

Area:

Upper:

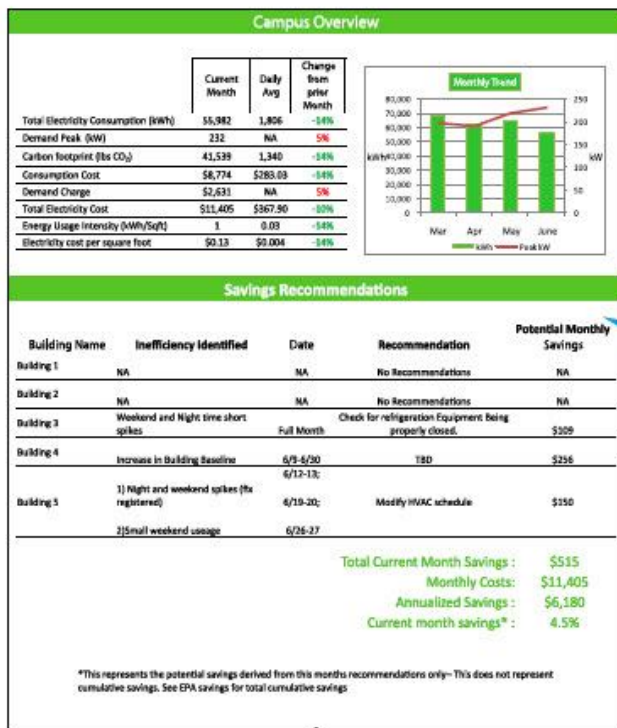
Repeat every: Day ☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐ Sat ☐ Sun

End by: (YYYY-MM-DD)

Energy Audit Reporting

SeriousAction Reporting

SeriousAction Reporting prioritizes actions for facility managers and property managers, helping them to focus on what really matters to optimize efficiencies – the biggest opportunities for savings. As an added service, SeriousEnergy Manager generates monthly reports of top action items. Our SeriousEnergy specialists consult with customers to optimize straight-forward, prioritized savings opportunities, understand whole building efficiency impacts, and evaluate any capital requests or proposals as they relate to energy consumption.



Navigation

- BGL14
 - GroundFloor
 - FirstFloor
 - SecondFloor
 - ThirdFloor
 - FourthFloor
 - UPS
 - Utility

Monitor >> Performance Report >> Power

Asset	Sqft	kWh/sqft/yr	kWh/yr	W/sqft/yr	Peak kW/yr	kWh
BGL14	250000	23.99	5498	13.42	3355	5122
GroundFloor	50000	14.28	654.68	21.04	1052	5876
FirstFloor	50000	47.46	2175	40.54	2027	2775
SecondFloor	50000	6.58	301.54	9.90	495	2580
ThirdFloor	50000	7.00	320.95	9.08	454	2367
FourthFloor	50000	6.56	300.85	10.54	527	2981

Actionable recommendations

Periodic SeriousAction Reports deliver straight-forward, actionable recommendations for your to optimize systems and save energy

Navigation

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 - FourthFloor
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Monitor >> Performance Report >> Cost

Asset	Sqft	Rs./sqft/yr	Rs./yr	Oct-10	Sep-10	Rs.
BGL14	250000	Rs. 109.89	Rs. 25183583	Rs. 2346834	Rs. 2398052	Rs. 2
GroundFloor	50000	Rs. 65.59	Rs. 3006385	Rs. 268574	Rs. 238657	Rs. 3
FirstFloor	50000	Rs. 217.57	Rs. 9971841	Rs. 1273224	Rs. 1446146	Rs. 1
SecondFloor	50000	Rs. 30.16	Rs. 1382131	Rs. 118678	Rs. 104237	Rs. 1
ThirdFloor	50000	Rs. 32.08	Rs. 1470125	Rs. 108601	Rs. 102537	Rs. 1
FourthFloor	50000	Rs. 30.10	Rs. 1379399	Rs. 136777	Rs. 111717	Rs. 1



Alert Setting

Manage Users and Alert Settings

Administrators set and manage privileged controls for unique users of SeriousEnergy Manager, as well as easily configure alerts notifications, such as via phone, email, text message, and for unique types of notifications, so that the people who need to act on SeriousInsight analytics and controls get the information they need, how they need it. Alerts and reporting can be configured to be sent over any time frequency, whether real-time, daily, weekly, etc.

Account

My Profile

My Profile

My Profile

Public Information

Social Accounts

Mail Budget

Account

Site Name:

Start Date: 1/1/2013

Country: United States

Email Address: info@domain.com

Start Email: Send Test Email

Subscription Info	Email Notification Frequency	New Website Email Frequency
Standard Email	Never	Never
Daily Email	Never	Never
Daily Content Summary	Never	Never
Daily Content Alerts	Never	Never

Auto Tag	Remove Tag
New Subscriber	Remove Tag
New Subscriber	Remove Tag
New Subscriber	Remove Tag
New Subscriber	Remove Tag
New Subscriber	Remove Tag

Save Cancel

BEM System Partners - Echelon



Next Development

iLighting Build up its Monitoring & Control Centre For all clients round the globe with new TBEMS features.



Project Cases

iLighting Product Co. Ltd. has been conducting a trial on highway footbridge with Hong Kong Government-Highway Dept. Street Lighting Section to explore the possibility to replace all city street FL tubes by LED tubes with intelligent dimming function.



Average FIC: 50% (200mg) Time 75 hrs on trial	=	200% (100%)
Average LEE: 20% (200mg) Time 75 hrs on trial	=	44.5 hrs
Width of Bridge	=	4 meters (approx.)
Height of Bridge	=	3 meters (approx.)

Lighting level measured by <i>Phytochrome</i> in roots	Lighting level measured by <i>ELIMINATE</i> in roots
<input checked="" type="checkbox"/>	<input type="checkbox"/>

Date: 1 Sept 2018 7:10pm



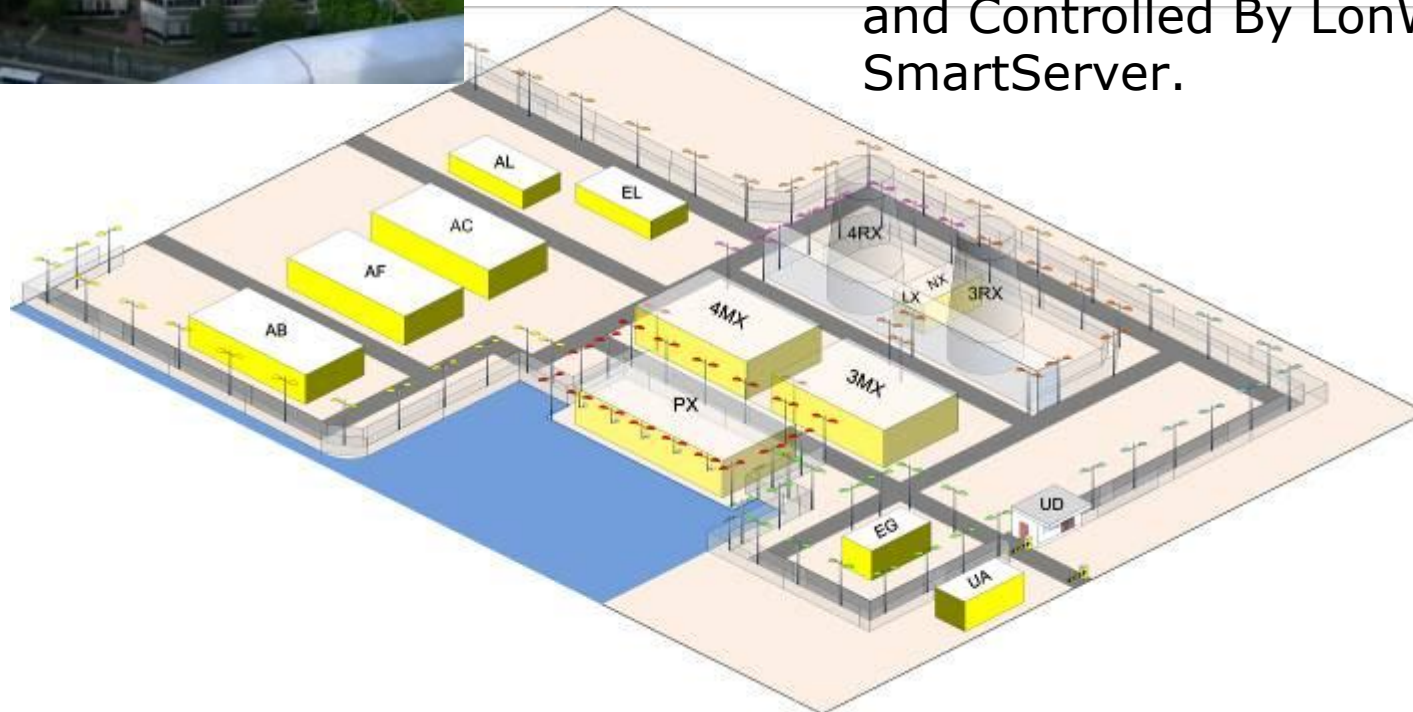
With Canton PostBridge K/F 101, Jan. 20, 1991, measurements

Proven Success (Ling Au Nuclear Plant)



**Street Lighting Intelligent Control System
Project Show Case – Ling Au Nuclear Plant ,
China**

500 street lightings Group
In 10 regions Linked To
Control Management Office
and Controlled By LonWork
SmartServer.



Proven Success (Ling Au Nuclear Plant)

Control Panels testing and system integration at HK Office prior to shipping to China Nuclear plant



Control Box assembly and Testing At HK Office





(US NFF Office)

Control Box Installed and Testing
At Pittsburg, US.



LED Light Panels at US Office At
Pittsburg

