

Building Analytics

Improve the efficiency, occupant comfort, and financial well-being of your building.



Make the most of your energySM

Schneider
Electric



Building confidence...knowing the why behind your facility's operations

Drive results to improve energy and operational efficiency and tenant comfort.

You have made many investments in building automation, metering, and systems to control your building. In doing so, you are able to manage your building operations with building management system (BMS) alarms, comfort calls, and metering dashboards that can all indicate a problem may exist. But did you know that significant energy, efficiency, and operational savings may be missed without knowing the whole story? Building Analytics converts the data created by your investments into actionable intelligence, enabling you to identify and prioritize cost-saving opportunities and mechanical system inefficiencies.

Building Analytics from Schneider Electric™ allows you to do more than identify facility issues. You can now pinpoint which systems and equipment have irregularities, with prioritization based on energy cost, severity, and comfort impact. You will have the assurance to completely understand why building issues are happening and how to remedy these situations. The cloud-based automated diagnostics use artificial intelligence to not only identify problem conditions, but also guide resolution through suggested actions. Periodic engineering reviews of your building diagnostics ensure that Building

Analytics continuously drives action and tracks performance over time. This actionable information allows you to better organize internal and contract resources for quicker, more efficient repairs and commissioning services.

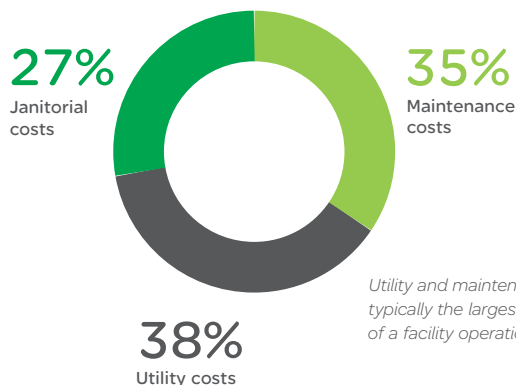
Building Analytics from Schneider Electric is about building confidence. It gives you the ability to optimize your operations by making fact-based improvements that are proven to lower energy costs, extend equipment life, and improve tenant comfort, making a positive and measurable impact on your bottom line.

75%
Facility operating costs represent a significant portion of overall building cost.

CABA life cycle costs are based on U.S. data.

Let us show you how to:

- > Take advantage of your building data
- > Find hidden costs and inefficiencies
- > Optimize operational performance
- > Reduce energy expenditures
- > Create more environmentally friendly, high-performance buildings



Utility and maintenance are typically the largest cost components of a facility operations budget.

Automated fault detection, diagnostics, monitoring, and reporting

Cloud-based Building Analytics provides actionable intelligence with clear system-level priorities.

Schneider Electric Building Analytics is an advanced life cycle managed service that delivers automated fault detection, diagnosis, and real-time performance monitoring for buildings. Information is captured from building systems and is sent to our cloud-based data storage. Our advanced analytics engine uses artificial intelligence to process building data to continuously diagnose facility performance by identifying equipment and system faults, sequence of operation improvements, system trends, and energy usage. From this information, a ranked listing of operational efficiency and energy cost-saving opportunities is automatically generated for your building along with recommended actions.

Using expert guidance from our team of building engineers and analysts, your local Schneider Electric representative will deliver a prioritized listing of the most impactful recommendations for your building. These recommendations allow you or your service provider to target maintenance activities by confirming building equipment is running at peak efficiency.

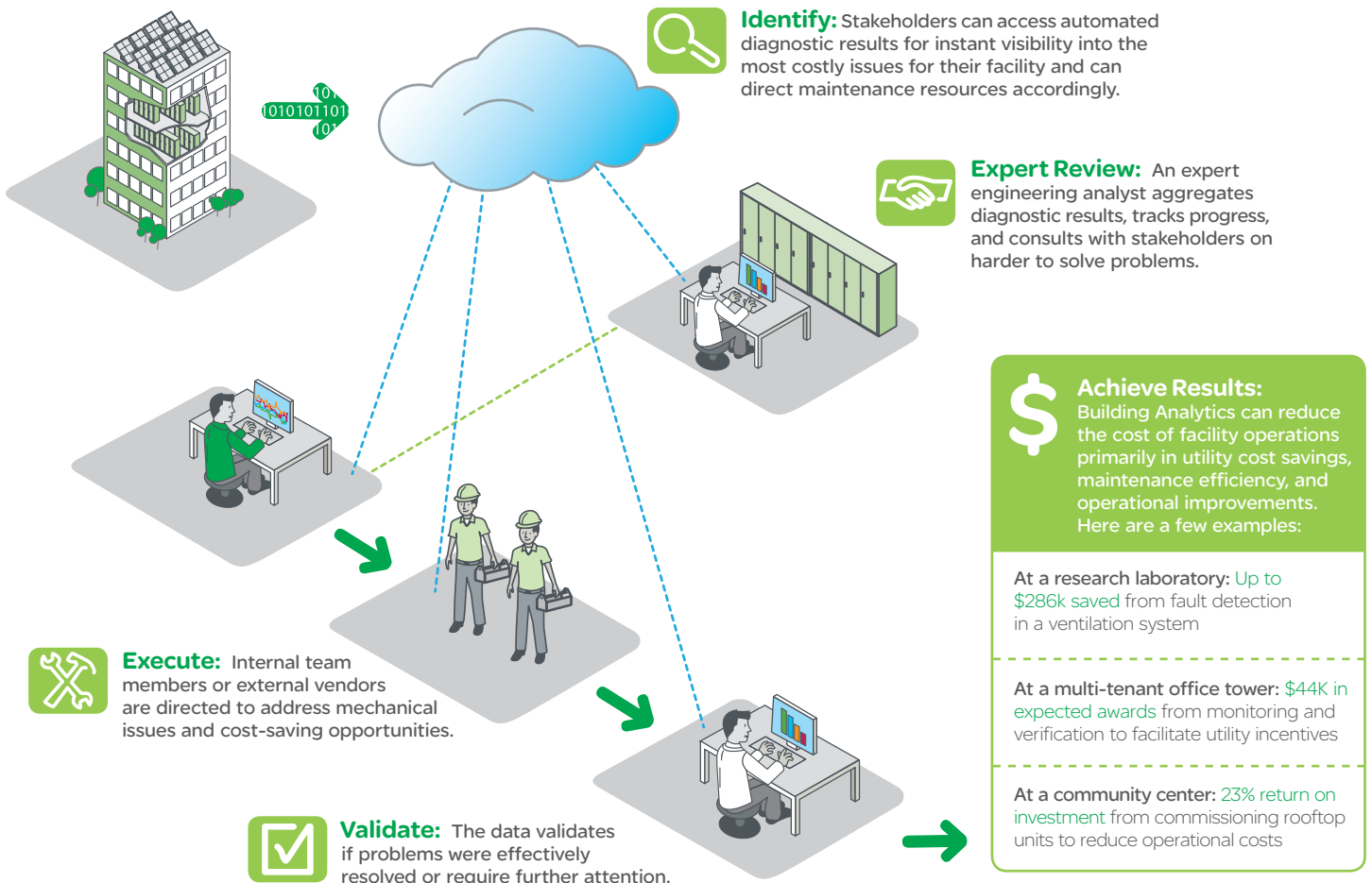
When Building Analytics recommendations are implemented, the results are obvious – enhanced building performance, optimized energy efficiency through continual commissioning, and reduced operating costs – all with a strong return on investment.



We deliver a prioritized listing of the most impactful recommendations for your building.

Information flows from data to results

Building Analytics will help you reduce facility operating costs over time by targeting maintenance efforts.



Identify operational and energy performance opportunities

Only Schneider Electric delivers portfolio diagnostic summaries of system inefficiencies ranked by cost and comfort impact using advanced analytics and performance monitoring.

For your building, the challenge is to take data from a wide variety of sources and turn it into actionable information. Many “smart” building systems have limited analytic capabilities, providing either simple snapshots of current operations, outlines of general energy trending, or alerts through the application of simple rules.

With Schneider Electric Building Analytics, our managed service is based upon a scalable, enterprise software architecture that uses automated fault detection and diagnostics (FDD) and other advanced diagnostics

methods to produce ranked recommendations on the most impactful fault remedies and energy savings available for your facility. Our expert building analysts review the prioritized findings to guide action specific to your building requirements and operational needs.

As part of the managed service offering, our extensive diagnostics library can be customized to your specific sequences and systems. Built on a scalable architecture, the Building Analytics system can be used for one or multiple facilities across your portfolio.



The Building Analytics system is built on a scalable architecture.



Daily diagnostics generate a report containing key facility performance data. Clicking on “view” will open a pop-up window displaying detailed diagnostics.

Sample reports: Know the 'why' and its impact

Building Analytics custom reporting provides:

↓ Avoidable costs total savings for period and analyst commentary on building operating issues

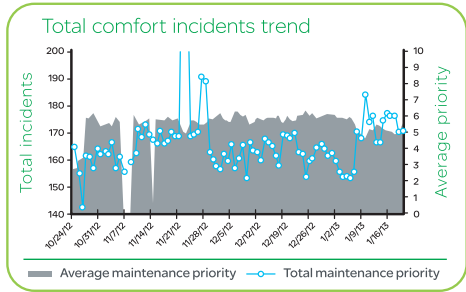
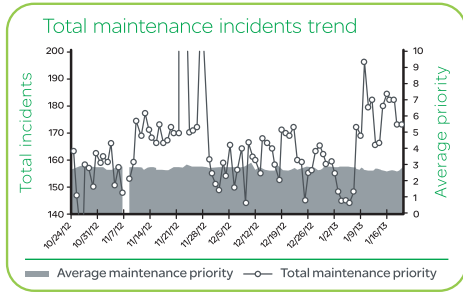
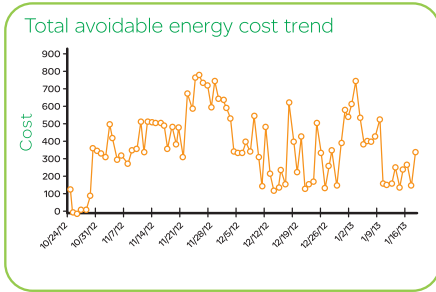
Avoidable energy cost

- Much of the avoidable cost decrease may be attributed to fixing the cooling coil leak on AHU 1 (October 10, 2012). It is possible the actual savings are greater, since we are in heating season this quarter, and the building is not calling for much cooling (making a potential leak more detrimental).
- The current most costly equipment faults are possible leaking cooling valves on AHU 11, 6, 5, and 4. These issues are being flagged because the supply air temperature is as much as 25°F lower than the mixed air temperature while the cooling coil is off. On AHU 4 and 5, this is also creating comfort issues, since the supply air temp is too low.
- AHU 10 and 11 are struggling to meet static pressure set point. This is causing the fan VFDs to remain at 100 per cent continuously. It may be worth checking the air flow balance of the affected AHU/CAV systems.

\$33,265
Total this period

\$5,201
Decrease since last period

↓ Trend analysis over time to track performance



💡 Energy			
Building	Equipment	Notes	Cost/Qtr.
Anon Hospital	AHU_6_CAVs	Low damper position – opportunity for static pressure reset.	\$11,120
Anon Hospital	AHU_11	No supply temp reset. Cooling valve issues.	\$7,778
Anon Hospital	AHU_6	No supply temp reset. Cooling valve issues.	\$6,163
Anon Hospital	AHU_5	Supply temp lower than set point. No supply temp reset. Cooling valve issues.	\$5,029
🔧 Maintenance			
Building	Equipment	Notes	Severity Priority
Anon Hospital	AHU_11	Static pressure lower than set point. Supply fan speed constant. Return fan speed constant.	6
Anon Hospital	AHU_10	Static pressure lower than set point. Supply fan speed constant.	6
Anon Hospital	CAV8_2	Room temp lower than set point. Stuck reheat valve.	4
Anon Hospital	CAV5_82	Supply flow lower than set point. Stuck reheat valve. May be sensor error.	4
🧠 Comfort			
Building	Equipment	Notes	Severity Priority
Anon Hospital	CAV1_16	Sensor error. Room temp higher than set point. Supply flow lower than set point.	10
Anon Hospital	CAV3_5	Room temp higher than set point. Supply flow lower than set point.	10
Anon Hospital	CAV4_45	Room temp lower than set point. Supply flow higher than set point.	10

➔
Prioritize energy, maintenance, and comfort issues with recommended actions

Building Analytics in action

At one client facility running Building Analytics, the preheating coil and cooling coil were operating simultaneously and wasting more than \$900 and 80,000 kBTUs on a daily basis. The problem was pinpointed at a leaking chilled water valve that once repaired produced \$60,000 in annual savings with ROI in the first month.

Building name: Building #33

Equipment name: AHU01

Analysis name: AHU coil analysis

Estimated daily cost savings: \$912

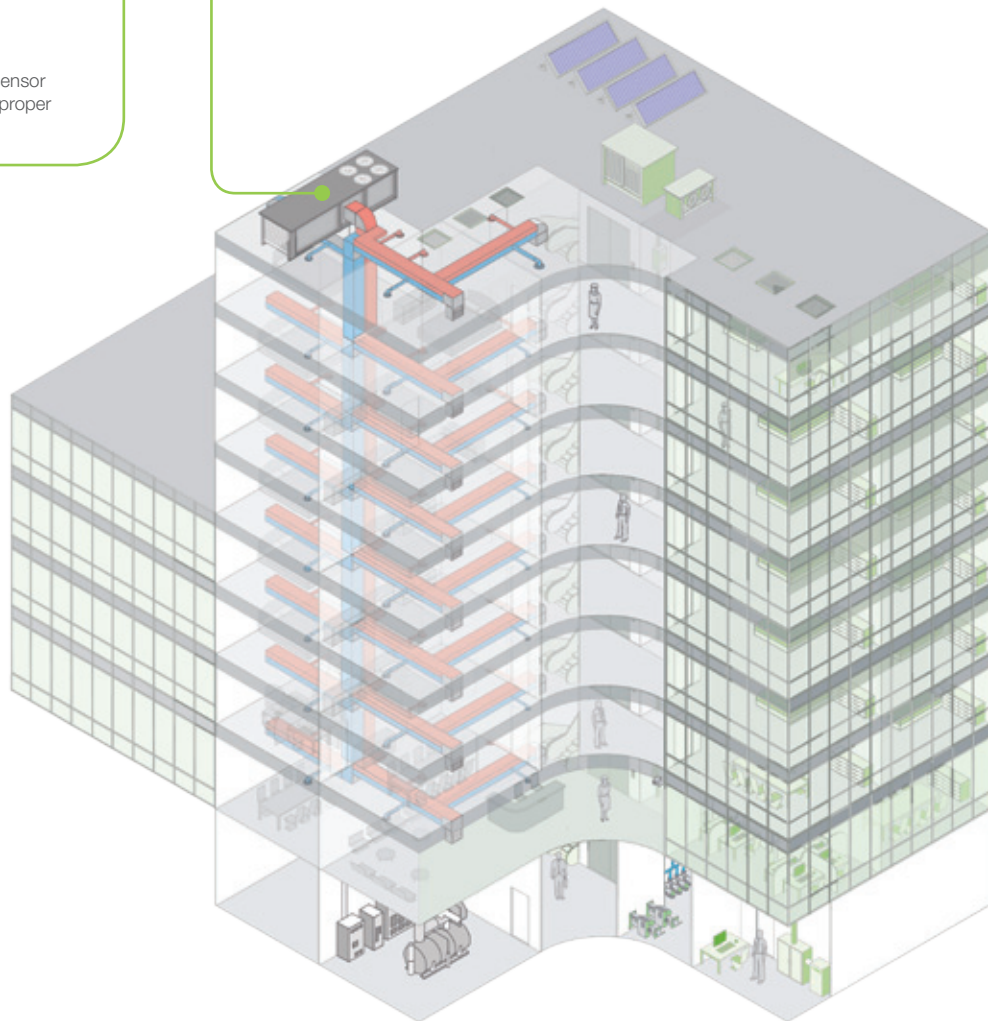
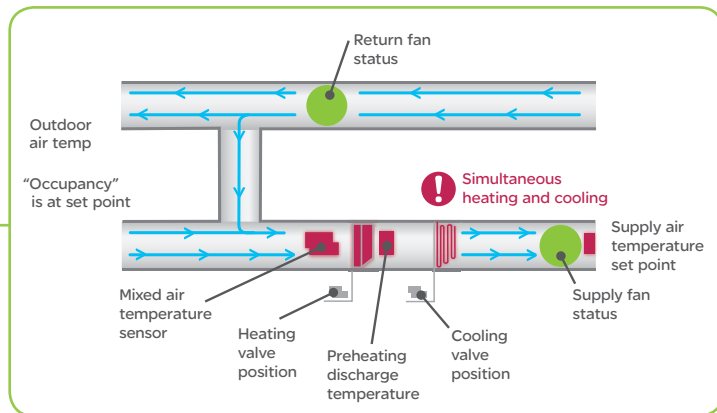
Problem:

Excess or simultaneous heating and cooling

- > The preheating coil and/or cooling coil are either providing excess heating or cooling or operating simultaneously.
- > This may waste around \$978 and 79220 kBTUs over 1 day(s).

Possible causes:

- > Valve is not seating properly and is leaking.
- > Valve is stuck.
- > Temperature sensor error or sensor installation error is causing improper control of the valves.





Improve bottom line results

Make more informed building decisions by knowing the financial implications of operational inefficiencies

Energy is typically your fastest growing and largest controllable operating expense. To better manage budgets, you need to be able to uncover hidden savings in your building to not only offset your energy spend, but also to make smarter asset investments. Building Analytics can evaluate system performance to identify items that directly impact your ongoing energy consumption and equipment operation.

Heating and cooling consumes an average of 30 percent* of a building's energy. Easily overlooked during daily operations, HVAC issues may be resulting in unnecessary energy expenses, while also resulting in premature equipment failure and building comfort issues.

Building Analytics can discover and address these hidden faults, allowing you to realize significant savings through HVAC system improvements.

Let the advanced visualization and analysis capabilities of Schneider Electric's Building Analytics solution help you close the gap between information and fact-based decision making. Our combination of big data technology and local facilities management allows customers to make data-based recommendations to achieve measureable return on investment through ongoing cost savings and optimized energy use.



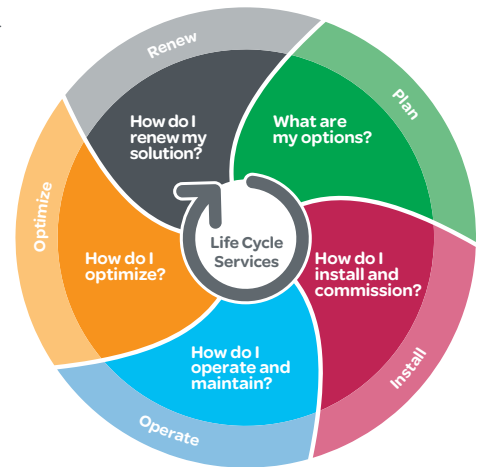
With Building Analytics, reduce your major equipment energy spend and save typically 15% to 30%

*Costs are based on Schneider Electric figures 2009-present.

Services for buildings

Schneider Electric delivers life cycle service solutions for high-performing, efficient, green buildings that sustain results over time. Scalable and cost-effective, our products and services enable business growth, improve building performance, and maintain occupant comfort. Ranging from traditional building management systems (BMS) maintenance and commissioning to technology-driven and digitally-enabled solutions, each offer is powerful on its own, but enhanced when implemented together.

Reflecting a continuum of intelligence and competitiveness, Schneider Electric's services offering portfolio includes:



Preventative Maintenance

Traditional services

BMS are critical to day-to-day facility operation and occupant comfort. Preventative maintenance services keep your BMS running in top condition and ensure they provide the foundation for effective implementation of all other services offers.

Commissioning

Restore designed operations

Re- and retro-commissioning services restore building operations to their designed state by looking at the engineered design parameters and considering the interaction of all system components. Engineers calibrate, tune, and repair components to restore working order to the entire facility.

Building Analytics

Prioritized fault detection and diagnostics

Powerful analytics are delivered as a managed service. Evaluate performance, comfort, energy, and maintenance data to identify prioritized areas for improvement and to validate repairs for optimal building performance.

Building Optimization

Automated, optimized energy management

Adaptive and self-learning, optimization identifies HVAC operations corrections and improvements, then implements required changes without human interaction. Building facilities are optimized 24/7/365 based on changing weather patterns, utility rates, demand response activities, and more.



Discover how Building Analytics can help your facility save on energy costs today! Contact your Schneider Electric representative to learn more.

Schneider Electric – USA

1650 West Crosby Road
Carrollton, TX 75006
Tel: 877-822-2601

www.schneider-electric.com/us