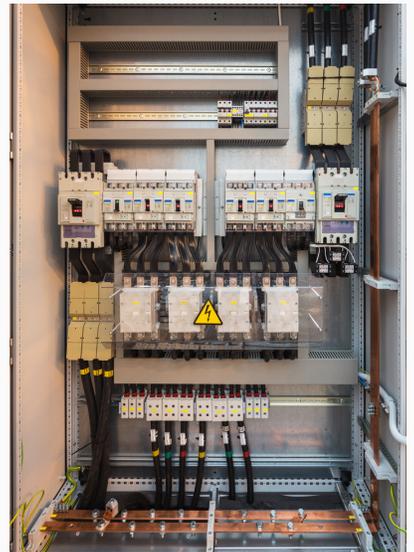


Predictive Analytics Drives Proactive Maintenance



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HOW DATA ANALYTICS PROVE RELIABLE FACILITY OPERATIONS



In a perfect world, a Facility Director or Manager can focus on proactive operations and maintenance within their buildings. But more often than not, they are busy and it is difficult to prioritize issues with little to no visibility. Their typical day consists of juggling numerous equipment issues and reacting to other urgent service calls. It may seem less stressful to wait until someone complains before prioritizing a work order for repair. They should be able to direct their staff to quickly address faulty equipment, rather than waste time trying to diagnose the source of the problems. But when buildings continue to degrade, how can a Facility Manager oversee and diagnose the maintenance at the same time?



A typical example is a Facility Manager who receives a cold call from a tenant who describes how the temperature in their space is uncomfortable. A work order is promptly submitted and the maintenance staff, armed with nothing more than a clipboard and tool bag, attempt to diagnose the issue. After some troubleshooting, they report the equipment was repaired, but the tenant calls again describing how the temperature has remained unchanged. **What if there was data to verify the repair had been made?** What if, instead of relying on troubleshooting, data validated the issue had been solved?

Synergy's Facility Intelligence (FI) team understands that a comprehensive plan for proactive maintenance leads to a comfortable and healthy environment for all occupants.

Through Synergy's **SONICx dashboard (Synergy's Ongoing Intelligent Commissioning)**, our team has helped clients with Automated Fault Detection & Diagnostics (AFDD) systems to fully optimize and integrate their Building Automation Systems and Computerized Maintenance Management Systems into a powerful, efficient "single pane of glass." Unlike systems that merely alert facility teams to a general problem, SONICx pinpoints the exact location of the issue, provides the root cause, and then validates with data that the problem was resolved correctly. Synergy's Facility Intelligence team has an easy 3-step plan to shift the building chaos into an organized and data-driven controlled facility.





STEP ONE: Identify Organizational or Facility Decision Making Needs

No two buildings are alike and should be treated as such. Our team will listen to understand your current facility situation and assess if upgrades are needed, or if the building is able to remain unchanged. Synergy's FI team will review the existing BAS infrastructure and evaluate its capabilities, including the current staff workload and levels of expertise.

- Save money & energy
- Proactively identify issues
- Help identify and prioritize areas to spend funds/identify projects
- Fully equip maintenance staff to perform work



STEP TWO: Identify Existing Conditions & Equipment

Once we've understood the existing equipment status, Synergy will work to address building areas that experience recurring issues. We'll perform a gap analysis which will enable us to understand your current state and the standard you wish to bring your facility to. Once we understand your goals and expectations, we can create a customized plan to set you and your facility up for continued success.

- Evaluate existing Building Automation Systems (BAS)
- Perform an assessment of major equipment
- Interview current maintenance staff
- Review current BAS Masterplan



STEP THREE: Present and Implement a Customized Plan

A customized plan, which could begin with a small pilot project, has given clients long-term success within a short amount of time. We will work with you to select an area of the building that would benefit most from analytics and monitoring. We would then integrate to the BAS controls in that area and deploy SONICx. Once the data begins to flow into SONICx, the analytics and fault detection will begin to identify the most critical issues that should be targeted in order to improve operational efficiency. Synergy will use this data to create a customized plan for you and your team that will help you quickly improve your operational maintenance and increase your energy efficiency.

- Create plan based on client and facility needs
- Recruit leadership buy-in and update BAS (if needed)
- Connect to and capture data
- Train staff
- Analyze data and provide regular reporting
- Import key data results to dashboard
- Summarize results and report results to decision makers



The issue was discovered, diagnosed, and repaired with confirmation, all through the software. No time was wasted deploying a team to troubleshoot the cause of the issue.

For example, when a tenant complained about the space temperatures fluctuating, rather than deploying a team to investigate, within seconds, the Facility Manager was able to view the issue through SONICx and determine the root cause. In this example, our client was able to view from the SONICx dashboard that the terminal's unit reheat coil control valve was leaking water when closed. When the valve was closed, the discharge air temperature fluctuated from 85-100 degrees. This leaking control valve caused discomfort to occupants in the space as well as wasted energy by adding unnecessary load to the heating hot water and chilled water systems.

The solution was simple, the valve was cycled and operation returned to normal. The issues was discovered, diagnosed, and repaired with confirmation all through the software. No time was wasted deploying a team to troubleshoot the cause of the issue.

In a data-driven facility, Facility Director / Managers are empowered to focus on proactive operations and maintenance within their buildings. By leveraging the power of existing data, their day now consists of identifying the most important issues, quickly deploying maintenance solutions and verifying the repair solved the issue.



Data helps to reduce drift which can save 6-8% annually.

Evan Mills PHD. "Building Commissioning; A Golden Opportunity for Reducing Energy Costs and Greenhouse Gas Emissions." Lawrence Berkeley National Laboratory, July 21, 2009

As systems begin to function proactively, the data quickly identifies where energy is wasted. By then, utilizing high-level calculations within the analytics, it is possible to pin-point potential energy savings. Reducing drift is another significant benefit of the data. A Facility Manager can save 6-8% annually in energy savings. This also helps extend asset life and lessens the deferred maintenance. Analytics can also aid as a type of feasibility study in understanding the capacity of the building.

Facility Directors / Managers are able to better prioritize their most pressing issues and can proactively provide maintenance where it is needed the most. By leveraging the data already within their facilities, they experience fewer nuisance calls and can actually manage their facilities, rather than their facilities managing them.

Nobody wants to continue losing ground in the facility operations. And nobody wants to put out fires all day only to have far more critical issues remain undetected.

If you have experienced alarm fatigue and are tired of wasting time searching for solutions, consider speaking to our Facility Intelligence team and learn how SONICx could streamline your facility and its operational maintenance.



Scan the QR code to talk to us about shifting your building maintenance from reactive to proactive

