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What Facility Managers Need to Know about Building Automation

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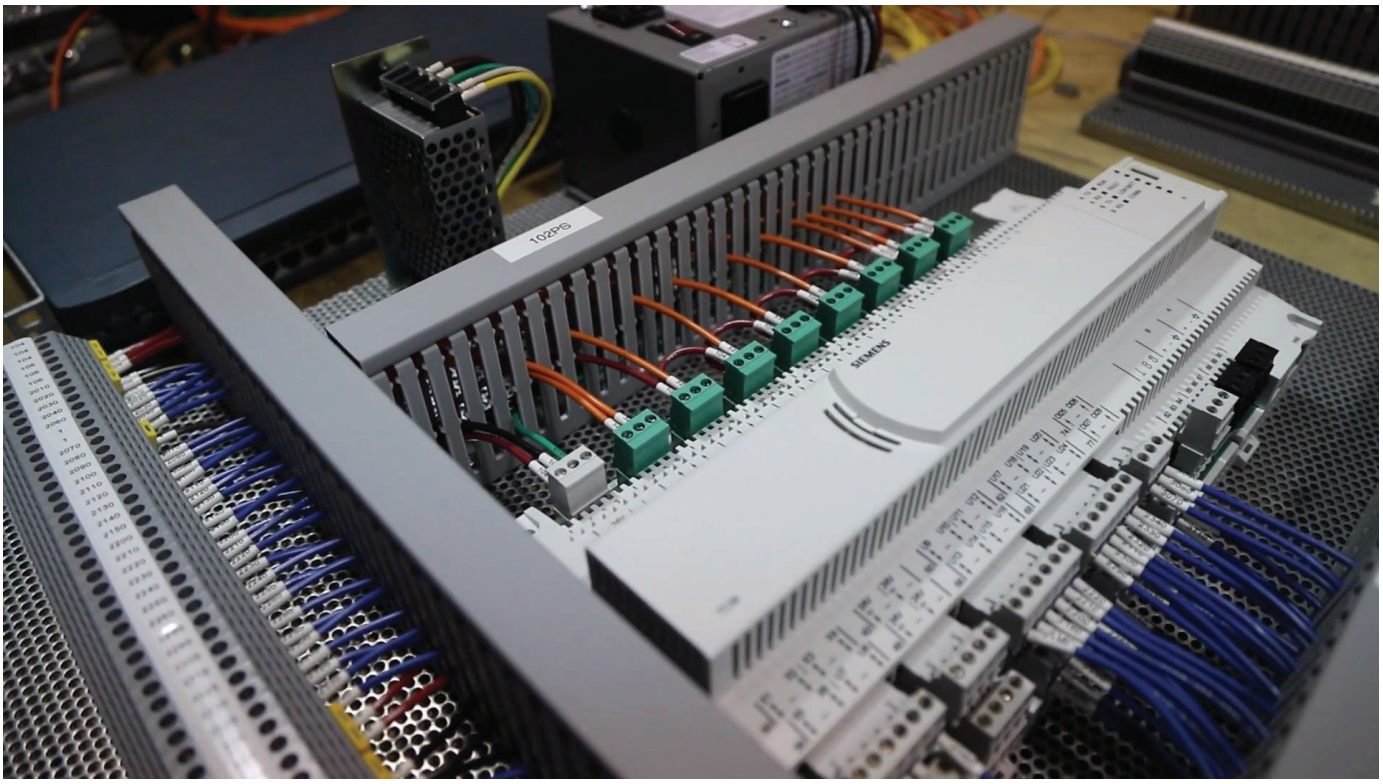
Introduction

As a building manager, you wear many hats in keeping your building safe and running in tip-top shape. You probably even use a few automated features to keep your building comfortable for the workers. Automated thermostats, secure doors, and lights are just a few of the ways to help you do your job as a facility manager. Even beyond these basic automations, there is a whole myriad of options when it comes to the inhabitants of your building. You might be surprised to learn that it's not just about convenience. It's also about translating that convenience into higher performance from the employees, which can help your company hit revenue goal.

This eBook takes you through a basic understanding of building automation as it relates to energy efficiency, from more granular details of precisely what systems you can implement, to giving your company an edge in the work environment.



What is Building Automation?

Building automation is characterized by the monitoring and automating of a building's system including systems for fire detection, security, lighting, heating, and ventilation. BAS, as it's known, is one of the best investments a company can make. Companies that can keep their employees safe and happy can translate that result into a more productive workday. Companies like Google and Facebook invest heavily in keeping employees happy and comfortable with correct air temperature, streamlined processes like automatic lights, and more and this pays back dividends in the form of employee productivity. It may sound like a redundant sentiment as we move through this e-book but the importance of having a safe and comfortable work environment cannot be overstated.

Employers, however, routinely give their employees the bare minimum when it comes to a comfortable workspace. They feel that the more places they can cut costs the better, They're already paying a bill for general utilities, why does it make a difference if the office is dark when the employees arrive? Through this e-book, we will be talking about how there's a lot more to BAS and keeping your employees happy in general than automatic lights.

The correct way to keep employees satisfied and productive starts with the 2-20-200 plan.

The 2-20-200 Plan

The 2-20-200 plan is also often referred to as the 3-30-300 plan in more expensive markets and relates to the concept of spending $2 in energy costs, $20 in rental space, and $200 in employee cost for every square foot of building used. Off the bat, this seems counterintuitive to what we've been talking about, but it is an easy way to put the output of the business into perspective.

The $200 allocated to employees is a fairly standard practice across any industry or business because your employees are going to be your ultimate leverage in the marketplace. You may have a company that does the same thing as another, but it's the employees that help that company scale at a faster rate.

Taking $2 for every $200 of employee square footage isn't an exact measurement, but it forces you to think about how comfortable your best assets are. If you're spending the same amount in scale are your employees as happy as they could be. Minimizing unnecessary costs is terrific, but it's also entirely worth the study to gather data on productivity. If you're able to adjust the thermostat automatically during the day to anticipate cold or warm weather outside and combat it, does employee productivity then increase? We bet you it does.

LEED Principles

The Leadership in Energy and Environmental Design certification is offered by the USGBC and helps businesses be as energy efficient as they are smart. Being LEED certified looks excellent for companies because it makes them "green" or environmentally friendly to customers. The UGSBC is continuously transforming the way they LEED certify businesses to help the environment.

One of the biggest perks of being LEED certified, aside from the excellent publicity look, is the fact that being environmentally friendly usually results in smaller energy bills too. You may have to pay a bit more for the installation of the newest product on the market, but in the long term, you'll reap the benefits by having less to pay on energy bills and having top of the line equipment that needs less repair.

Total Room Automation

If you've ever been frustrated with an employee staying late in your building, it's likely because you feel like the waste of energy for one person to do work is immense. All the lights that need to stay on, the air conditioning and more. All of this is costing your building more money!

Worry no more. Total Room Automation (TRA), a subset of Building Automation, allows one room to adjust to the needs of the people in it without affecting the whole building.

A great example of Total Room Automation occurs when a conference room comes into play. Conference rooms aren't used all day like most offices, and therefore they don't need the same kind of considerations as office spaces. If a conference room is set to be used the building automation system can ensure that on a warm sunny day the blinds are automatically closed to keep heat out, the air conditioner is running, and the lights are turned on before the group even steps into the meeting room.

Total Room Automation is a powerful tool for facility managers to ensure the comfort of those in the building and take a building automation system from simple to profitable.

Proprietary vs. Non-Proprietary Systems

Choosing to use a Building Automation system is a no-brainer, but there are a plethora of options out there, so where do you start? One of the biggest differentiators in building automation systems is proprietary vs. non-proprietary systems. Both possess advantages and disadvantages, so let's take a look at what might be the right choice for your building specifically by breaking down the pros and cons for each.

Non-proprietary systems, also known as "open" systems, provide your building with a one of a kind setup that caters to employee needs and management's goals. Just about every conceivable automation option and intelligent building feature available can be incorporated into an open system. Non-proprietary systems can be custom designed to utilize a variety of different manufacturers and subsystems within your building. However, it's no secret that with all that customization comes the drawback of the price. While you may end up paying more on the front end, it's quite likely that you will save money in the long run when it comes time to upgrade the building automation system.

Proprietary systems, also known as "closed" systems, can be lower priced and are often a bit more consumer friendly. However, they present quite a few challenges. Expect restrictions regarding use and functionality. Integrations may be limited to only equipment offered by the company from which you purchased the system. Also, you may have to use an assigned technician, rather than getting to pick your own. And finally, Software may follow specific upgrade schedules that may not coincide with your needs.

Overall neither closed nor open systems are necessarily better, it's merely about what fits your business's needs and goals the best. If you have the resources and money, an open system might be a great way to get your employees exactly what they need. If you're low on cash and want to a solution that will solve your immediate need, a closed system offers some of the advantages of an open system and usually for less cost.

Building Automation Maintenance

So you have your building automation system installed. Everything is working great until you find one of the thermostats has broken, or worse, the software in your system has issues that you don't know how to diagnose. These things may happen from time to time, but you can mitigate your risk of it happening with routine BAS maintenance. Take a look below at some of the ways to keep your BAS and thus your employees happy.

Why Maintenance Is So Important

One of the most significant issues users have with building automation systems is that they're installed and then not maintained. It is incredible how often overlooked a simple bi-annual tune-up is and how much it can do for your system. Even if there aren't any issues found the technician may recommend an upgrade to a particular area of the system so that you can stay on the cutting edge of technology. He may also recommend a legacy upgrade, but we'll talk about that in a minute.

Signing up for regular maintenance with a trusted provider is a great way to keep your system stay running smoothly year after year.

Legacy Upgrades

All building automation systems eventually become outdated - this is referred to as a legacy system. This isn't necessarily a bad thing as we want technology to continually find ways to make us happier and safer with our building automation, but it does perhaps mean that you'll need to replace your BAS which can be very expensive. Before you commit to replacing a whole building automation system, consider a legacy upgrade.

Legacy upgrades allow you to take an old system and replace just the parts that need it, which can result in lower costs and less time spent getting the system up and running. While closed system legacy upgrades are usually quite easy and are sometimes even built into a plan, there's no guarantee that the manufacturer will allow such an upgrade. Any upgrade that occurs will happen on their terms. If you have an open building automation system, you'll be able to upgrade whatever components of that system you want, when you want to do so.

Building Data and Analytics

Using data is typically a better indicator than getting an email from an employee that says "the thermostat isn't working." Having data goes hand in hand with fundamental building maintenance practices. Letting sensors tell you when there's a problem can help you stay ahead of issues and speed up the resolution process. Be sure to ask what sort of data can be gathered from the building automation software you're installing. The better reporting you have, the more you can tailor the system to your employees' needs.

Data Visualization

Having building data is fantastic, but depending on the size of your building and number of locations, the amount of data can be tremendous or even crippling for anyone trying to make sense of that data. However, there is visualization software that can turn your data into graphs and charts that can help your facilities team manage your building systems more effectively and efficiently.

Building visualizations can show the exact issue in your system in a context that is easier to understand than on a readout. It's a slick way to diagnose and better understand where you might need to make improvements or basic changes.

Final Thoughts

Building maintenance is no longer a want in commercial and industrial facilities; it's a need if you plan to improve productivity, employee happiness, and the safety of your building. Building Automation Systems, along with Total Room Automation, have proven to improve the bottom line with more than just energy savings.

If you're looking for the right place to explore building automation opportunities, Mid-Atlantic controls Corporation has serviced hundreds of building automation units across dozens of industries and will be sure to know precisely the kind of treatment your building and employees need.

Contact Richard Satchell at (804) 265-4920 ext. 228 to coordinate a free consultation.

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