



Modernizing your building automation system with EcoStruxure™ Building Operation

Planning for success

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Authorized Partner

**COMFORT
SYSTEMS USA**
BCM Controls Corporation

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Putting technology to work for you

We all are accustomed to upgrading technology in our personal lives. Consider personal cell phone. Every few years, we realize that the technology isn't working as well as it used to, cameras are better, security has improved, and there are more apps available on the newest product. So we buy a new phone.

Why isn't it the same with a building automation system? Technology enhancements can improve safety, environmental quality, and productivity. Adopting new building technology can help stay modern, align with IT requirements, enable strategic initiatives and create a competitive edge.

A delicate balancing act: the complexities of price, budgets, and labor challenges



Investing in technology to improve building performance can be complex. Prices continue to rise, and inflation causes organization leaders to pause and prioritize investments.



Budgets are tight and everyone is challenged to do more with less. Updating systems that a manufacturer no longer supports is necessary, as critical failures and unbudgeted repairs can be incredibly costly to businesses.



Many skilled facility team members may soon exit the workforce. These employees take the skills, knowledge, and experience required to manage non-supported systems with them, creating a skills gap that is nearly impossible to close.



Skilled employees eventually need to be replaced with new talent. The skilled labor shortage creates significant pressure in the building industry, as the younger generation approaches things differently. Leveraging social media as a training platform is the norm. They are the IP generation and accustomed to using programming and engineering tools that are smart and efficient. Without investing in technology and system upgrades, organizations run the risk of not attracting top talent to replace current leaders.



The case for modernization

While the challenges are real, there is no better time to start planning for modernization. Your road map to success should include developing an understanding of cyber security requirements, product lifecycle limitations, and supply chain trends. Product innovation and its ability to impact sustainability goals should not be overlooked.

Cyber security improvements

Cyber security is a major concern as the convergence of IT and OT makes buildings more vulnerable to cyber attacks, which can compromise data, impact reputation, and take down entire businesses. Choose a partner that helps you protect what is most critical to your business.

At Schneider Electric, we continue to invest in technology designed to prevent cybersecurity attacks, address IT departments' risk register, and help achieve compliance.

Recent cyber security enhancements include:

Identification & Authentication	Authorization	Confidentiality	Integrity
☐ Admin logon password management ☐ Imported user accounts are disabled by default ☐ Certificate functionality using electronic credentials to certify the identities of computers and other entities on a network ☐ Password policies and default settings ☐ SSH connection control ☐ Disabled after failed logon attempts ☐ SSH device fingerprint authentication ☐ Force admin password change ☐ Active directory/Windows logon support ☐ Federated authentication support ☐ Enterprise server run-as-service selectable user account ☐ Secure flag for cookies in WebStation is enabled when using HTTPS	☐ Custom logon banners that enable communication of policies to SSH an non-SSH operators ☐ Role-based access control ☐ Object and point-level security	☐ Encrypted data transmission ☐ SMTPS secure email notification support ☐ Clickjacking protection options ☐ Password data management ☐ Secure connection between device administrator and AS-P or AS-B server ☐ BACnet Secure Connect, BACnet/SC	☐ Auto logoff ☐ Audit log with system-wide synchronized timestamps ☐ AS-P Secure Boot is available to ensure the authenticity of Schneider Electric firmware. ☐ SHA2-256 hash algorithm support ☐ WebStation: HTML5 graphics, trend, viewing support, removal of Java ☐ Basic protection against program and data at rest modification ☐ Basic protection for input validation

“Cyber security is the ability of a system to be secured against cyber attacks ranging from unauthorized access, to theft of information, to disruption of services or facilities. As building automation systems become digitized and increasingly networked to other systems, building cyber security becomes a more critical issue.”

Building Automation and Control Systems report from BSRIA
Building Automation and Control Systems 2022 Report 104673/6, BSRIA, Ltd.

~40%

of building automation systems were affected by cyber attacks in 2019.

(Kaspersky, September 20, 2019).

Smart Buildings: a back door for hackers?

“Cybersecurity issues are expected to grow in tandem with the digital transformation of real estate through intelligent building technologies. The information/operational technology (IT/OT) convergence is a necessity for successful deployment and the use of intelligent building solutions but in many customer organizations these business units act in isolation.”

- Casey Talon, Navigant Research Source: Security Ledger



Product lifecycle

Products are introduced, invested in, and at times, phased out as technology changes. Risk increases when modernization is delayed. For example, when a controller is discontinued, there may be limited replacements available. No further firmware updates, patches, or fixes will be developed, and technical support may be limited.

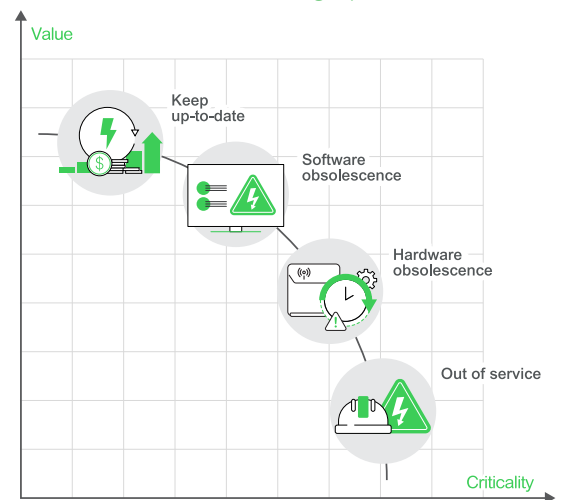
If the controller fails, and no replacement is available, connection to all downstream devices could be lost. This may create business performance and employee comfort issues. Unplanned repairs can be very expensive.

Supply chain trends

Building Automation System manufacturers are impacted by decisions made by their suppliers. For example, if a supplier discontinues the OS it manufactures, then downstream products that use that operating system (OS) will be impacted. Decisions to innovate require investment, resources, and planning to ensure new product revisions meet the needs of the market.

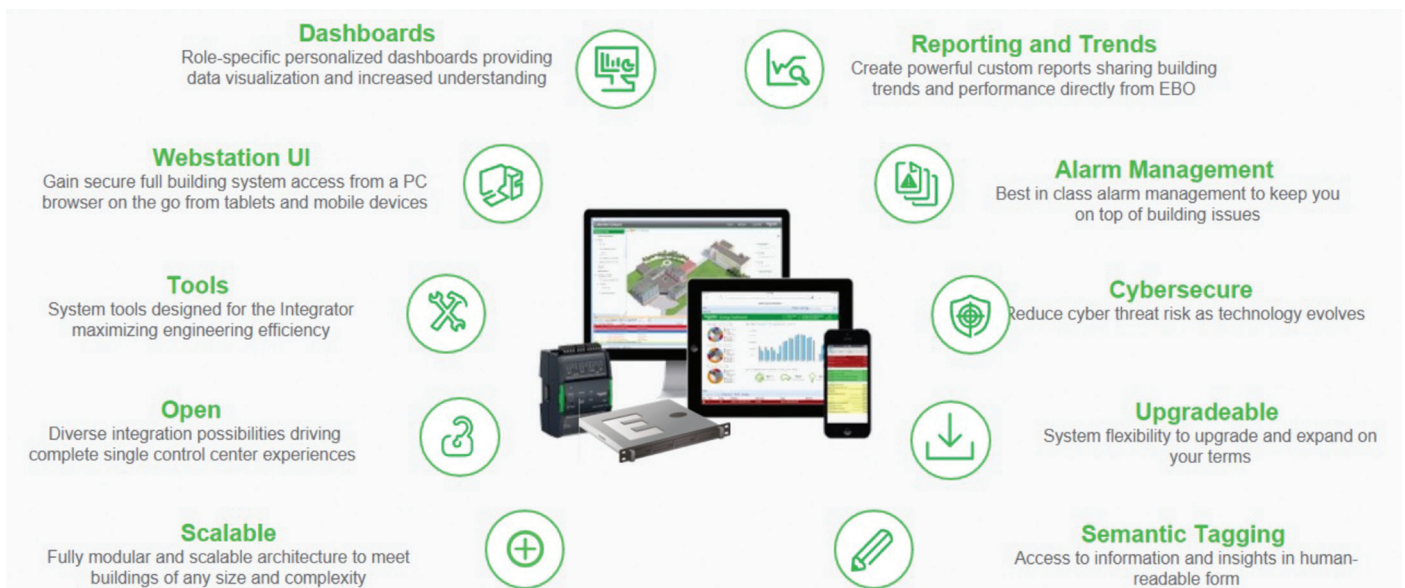
Lack of component availability has resulted in supply chain challenges as well. The pressure to find alternative solutions can increase costs and often result in higher prices. Manufacturers may retire products earlier than expected and be forced to innovate as a result.

Waiting to upgrade your BMS increases the risk to building operations.



A growing platform

By modernizing to EcoStruxure Building Operations (EBO), you'll gain access to a best-in-class building automation system designed to optimize buildings, reduce energy use, and help create a more sustainable world. It is a flexible, scalable, and open-platform that we continue to invest in and innovate on.





Committed to creating value

Over the years, the EBO platform has expanded to ensure that, as a building owner or operator you can expect energy savings, drive efficiency, enhance staff productivity, and create a path that enables sustainability initiatives. Value-added, recent, customer-centric features align with scalability, mobility, performance, and cyber security and are highlighted in the table below.

	2018	2019	2022	2023
	EBO 2.x	EBO 3.x	EBO 4.x	EBO 5.x
Scalability	Enterprise Central Enables growth through lifecycle of BAS with ability to have 10 enterprise servers hosted by a single enterprise central			Enterprise Central Expanded scalability for enterprise central accommodating systems with up to 50 enterprise servers
Mobility	Responsive WebStation Friendly, mobile application allowing accessibility from any browser	Dashboards Actionable data visualization for local and external storage data		Dashboard Search Widget Provides an easy-to-build mobile summary view that reduces engineering needs and puts data in the customer's hands
Performance	IP controllers Increase the speed and feature set of the BMS using IP field bus	Connected Room Solution Enables control through the occupant app and Living Space Sensor	Semantic Tagging Navigation and filtering capabilities provide a new conceptual interface for interacting with EBO	Timed-Forced Overrides Provides ease of use, peace of mind and helps to avoid costly mistakes by returning scheduled programming after a quick fix MSSQL Extended Storage Provides MSSQL database as an option and enables the ability to meet IT requirements
Cybersecurity			Cyber Security Best-in-class authentication, encryption, and granular permissions via SAML 2.0 authentication, secure boot AS-P and BACnet secure connect	

Enable sustainability

Taking steps toward sustainability or “net-zero carbon” can be confusing. Establishing a baseline is a good first step, but creating a plan that leverages key technology platforms that aggregate data, help to understand utilization, and enable decisions that save energy is critical. With EBO in your building technology stack, your EcoXpert can help create a sustainability strategy that drives real results.



The path to modernization

Very rarely can a building owner or operator modernize their entire system at one time, and there is no need to replace an entire system. However, planning for system modernization in phases is often a great strategy. Without adequate planning, you may experience:

- Inadequate access to spares or repair parts availability
- Costly, unplanned, unbudgeted, emergency repairs
- Lack of necessary support from IT leadership to secure IT support
- Budget challenges
- Comfort or indoor air quality issues
- Employee dissatisfaction or productivity issues
- Business performance
- Delays in advancing your sustainability strategy

Get started on your modernization journey today

Team with your local EcoXpert to future-proof your facility by creating a modernization plan. Our EcoXperts can help by:

- Identifying quick and self-funding modernization opportunities
- Prioritizing specific areas of the facility for both software and hardware upgrades
- Focusing on reducing maintenance costs via dedicated transition plans

Your simple plan will be designed to create minimal interference with business operations and is a great first step to a modernized solution.





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Contact your local EcoXpert partner to start building your modernization program today.

Schneider Electric EcoXpert Locator map: www.se.com/us/en/

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