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CASE STUDY

Walking the Talk: How UL Solutions Modernized its Campus with Siemens

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As a global leader in independent safety science, UL Solutions (ULS) is known for setting the standard for safety across industries. As the organization has evolved, UL Solutions recognized that its legacy building infrastructure needed to be modernized to keep up with new building technology. Their aging systems—marked by higher operating costs, outdated electronic and pneumatic components, and limited digital integration—created growing operational challenges.

In addition, ULS leaders realized it wasn't following its own advice. In 2022, ULS launched "The SPIRE™ Qualification Program," to increase awareness of the SPIRE Smart Buildings Assessment™, the world's first comprehensive smart building assessment and rating program for the building industry. It analyzes a building's overall performance holistically across key areas, including power and energy, life and property safety, cybersecurity and sustainability.

When the company conducted its own SPIRE assessment at its Northbrook, Illinois, campus, the results were eye-opening. They were not yet fully "walking the talk." UL Solutions needed to modernize its own facilities and lead by example—demonstrating what a truly human-centric autonomous building looks like in practice.

The Challenge: Walking the talk for autonomous buildings

The time had come to improve operational efficiency and drive higher performance. They needed a comprehensive building automation modernization strategy that could address sizable lab, office, and common spaces across multiple buildings at their headquarters campus.

But where to begin? The scope and importance of this transformation project meant one thing: ULS needed the support and expertise of a strategic partner that could deliver industry-leading results on an enterprise scale.

"Our headquarters is a complex mix of office space, highly specialized labs for testing water, plastics, electronics and other materials as well as cafeterias throughout the campus. There are very strict tolerances around humidity and temperature controls and pressurizations in each of these areas. This requires a higher-end control system that enables us to meet all of our testing and customer requirements and provide a comfortable and safe work environment for our team members."

Jared Conrad
Global Director of Facilities Management
UL Solutions



The Solution: An unparalleled building technology portfolio

After a comprehensive RFP process, UL Solutions selected Siemens to bring its building technology to their headquarters.

While several factors led to ULS' decision to select Siemens, here's what stood out most: Siemens' comprehensive portfolio of smart building technologies—including Building Management Systems (BMS), energy management, IoT and fire and life safety. Together, these capabilities uniquely positioned Siemens to address ULS' key challenges:

- Upgrade critical infrastructure to support safe working environments
- Modernize buildings to meet SPIRE™ standards
- Enhance the reliability of their lab facilities
- Showcase smart building practices to global customers

Siemens Building X was a key differentiator for UL Solutions, enabling the organization to manage all building operations through a single, unified platform. The technology consolidates all pertinent data related to operations, sustainability and performance across the Northbrook campus, giving ULS immediate, high-level visibility into current building conditions. This allows ULS to be proactive on issues of energy management, safety, maintenance, and occupant comfort.

Beyond Building X, Siemens could provide a sustainable framework for modernization that could be deployed to other ULS facilities worldwide. Service further differentiates Siemens and was a key reason why the company was selected. At any time and from any location, ULS can rely on a dedicated Siemens contact to engage with the right experts. This ensured consistent support throughout the project.

"ULS was interested in a technology partner that would provide a broad set of solutions that could be leveraged throughout the ULS universe," explained Jon Perry, Siemens' Account Executive, Enterprise Clients. "Siemens Building X platform was also a significant advantage in their decision process as it provides centralized real-time data aggregation across key building management categories."



The Partnership: Trust backed by expertise
Faced with the urgent need to modernize, this global leader knew that it required a partner with the scale, experience, and credibility to match its ambitions. Siemens became the obvious choice—demonstrating the right combination of technology, industry expertise, and customer service to support UL Solutions' modernization journey.

"One of the most important factors leading to ULS' decision to partner with Siemens was our ability to understand their needs and priorities," according to Perry. We knew how to tackle their aging infrastructure with the right solutions, and we also recognized their broader vision to expand their technology footprint."

Siemens further reinforced confidence among ULS executives that the account team was backed by years of expertise and successful implementations. Any challenge along the implementation path would be addressed quickly and with proper due diligence, while never losing sight of ULS' long-term objectives.

> We have so much to offer in our toolbox that the expectation is that all the headquarter buildings will become autonomous. Our ULS partners are engaged in this goal just as much as we are. That's why our partnership is strong and growing as we achieve milestones in our modernization initiative."

Jon Perry
Account Executive, Enterprise Clients
Siemens

The Implementation: Working together
With the team and parameters in place, ULS and Siemens began their journey. Modernization of ULS' headquarters began with Phase 1: building automation. The first step in this process was to establish design standards and the graphical interface specific to ULS. Siemens developed the playbook of design standards that would serve as the template for the Northbrook headquarters and eventually, other locations around the world.

From there, the real work began by addressing critical comfort, safety, and energy issues in the labs and office spaces. ULS and Siemens engineers installed local controls for all existing air handlers. Every lab, office or shared space could be set at the required temperature and humidity levels with a goal of comfort, energy efficiency, and productivity. In the Midwest, where temperature swings are frequent and extreme, maintaining indoor air quality while carefully controlling outside air intake is critical.



"Occupant comfort was a challenge with ULS' aging infrastructure, from consistent temperatures to air quality concerns," said Justin Barstow, Siemens' Account Manager. "Siemens brought solutions that could improve this and ultimately drive occupant and employee satisfaction as well as customer satisfaction."

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The new temperature and humidity monitoring devices that have been installed in our labs throughout our campus give us the ability to shift from a reactive mode—'there's a problem'—to a more predictive and preventative mode."

Joe Tito
Senior Laboratory Manager
ULS

Customers turn to ULS to help ensure the safety of chemicals, oil and gas, plastics, batteries, fire systems, hazardous materials and more. No two labs are the same, yet each lab must maintain strict temperature, humidity, and pressurization levels throughout the testing life cycle to comply with its standards and regulations.

ULS also tests and certifies fire safety equipment for customers across diverse industries. To perform these tests safely and with the highest level of accuracy, ULS must ensure its facilities comply with all fire safety regulations. Siemens addressed this by installing new fire control panels and a primary one at ULS' central station that can respond to any incident within seconds.

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Siemens Building X platform will be used to integrate data from all ULS' fire control panels and devices, providing a centralized view of our fire safety system with 24/7 visibility. This not only enhances transparency, but also ensures our fire safety system is compliant with all regulations."

Chuck Gerhardt
Senior Facilities Manager
ULS

As part of the modernization program, new lighting controls were installed throughout the various buildings. Overhead lights can now be automatically adjusted with ease to accommodate daylight to night conditions. Also, window shades automatically go up or down according to the amount of available light and the desired area temperature.









The Results: A positive impact from the start
Although the project is in its early stages, UL Solutions is already seeing improvements in performance and efficiency. Some of the benefits highlighted include:

Predictive maintenance
Building data for the Northbrook campus is being collected on the Building X platform so that the ULS maintenance team can have better overall insight into the performance of building systems over the long term. This allows them to identify performance issues with a piece of equipment before it becomes noticeable to occupants.

Air quality and efficiency
The team is better able to monitor and manage air quality conditions and bring in fresh air more efficiently—critical on very hot or very cold days. This is helping reduce overall utility costs as well as keeping occupants more comfortable and productive, according to Jared Conrad, ULS' Global Director of Facilities Management: "When you look at cognitive decline associated with carbon dioxide for a campus of our size over a year, that can add up to $4 million."

Peace of mind
The new fire safety system with central station monitoring has given the facilities team greater confidence that they will be able to quickly assess and address any incidents. "If we have a smoke event or a fire alarm goes off, I have peace of mind knowing that the Siemens panels will be reporting everything, and we'll have a safe facility," says Chuck Gerhardt, Senior Facilities Manager at ULS.

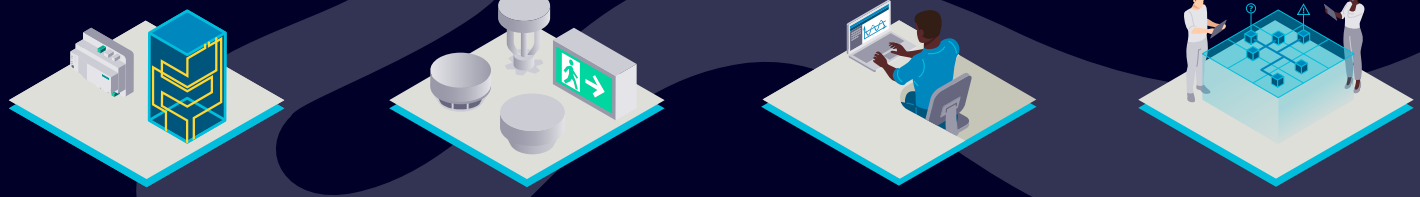
Increased visibility
The facilities team has been using the Desigo CC building management system to proactively check equipment performance and room conditions. They frequently check on air handler performance and sensor data to ensure temperatures and humidity levels in labs are within the precise ranges required.

Desigo CC V9 has achieved UL Solutions' Smart Systems Rating of Platinum, the highest rating awarded by UL Solutions for smart building systems today. This confirms Desigo CC is a trusted, future-ready digital backbone enabling long-term interoperability across enterprise building systems.

Improved energy efficiency
Using room occupancy sensors, ULS has been able to cut down on unnecessary energy usage. "Siemens controls help us understand what's going on inside the building, and we can set back areas where we have lower occupancy if people aren't in the office on a Monday, for example," says Gerhardt. Being able to control occupied spaces while dialing back on unoccupied spaces lets ULS reduce its electricity consumption and carbon footprint.

The Siemens Advantage: UL Solutions

Siemens puts UL Solutions on the modernization pathway across multiple building systems globally.



Building Automation | Fire Life Safety | Brightly Intelligent Asset Management | Building X

The Future: Scaling modernization globally

With a mutual goal of making all Northbrook facilities autonomous by leveraging technology, innovative solutions, and a collaborative approach, ULS and Siemens are poised to achieve success. As the modernization journey progresses, the insights, platforms, and best practices established at headquarters are designed to scale, enabling a consistent approach to modernization across UL Solutions' facilities worldwide.

Together, Siemens and UL Solutions have formed a trusted, long-term partnership that continues to deliver measurable value today while preparing ULS' global facility portfolio for what's next.

"Generally, facilities don't make money for a company. So as we look to become more efficient, we're also looking to reassure our shareholders, our investors, and our leadership that the funding we are using is actually having a positive impact. We can now take data and share that with our business leaders."

Jared Conrad
Global Director of Facilities Management
ULS

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