

KNX in the USA

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KNX Gains Ground In The USA

Following the launch of KNX National Group USA in May 2015, KNX continues to build momentum in the “Land of the Free” on the back of its successful participation at two major national shows and a growing number of flagship KNX projects.

KNX is making a big impact in the USA,” says David Thurow of Siemens, the President of KNX National Group USA. “Since the formation of the KNX National Group USA, we have introduced KNX at the prestigious LIGHTFAIR International show in New York and also at CEDIA Expo in Dallas. The response has been overwhelmingly positive. This is a market ready for KNX open protocol technology because it brings integrators and end-users the freedom they increasingly want in building automation.”

Manufacturers, end-users, designers and integrators flocked to the KNX Association booth at LIGHTFAIR International, the leading exhibition for lighting and building automation solutions (New York, 5–7 May). The event attracted a record-breaking attendance of 29,900 registered visitors. KNX’s debut told a similar story at CEDIA Expo (Dallas, 14–17 October), the industry show attended by over 18,700 home automation integrators. Hundreds of visitors beat a path to the KNX booth to find out how the technology could help them integrate efficient, seamless and easy

KNX USA at CEDIA Expo



KNX National Group USA Foundation Members

to install systems for their clients when using products from a wide choice of different KNX manufacturers.

This appetite for KNX technology is reflected in a range of recently completed showcase projects across the USA. These include the Cincinnati Museum in Cincinnati, Ohio, the World Trade Center and the Reser Stadium both in Portland, Oregon as well as a new, luxury mansion for a wealthy client in upmarket Beverly Hills, California. These build on earlier successful KNX installations at the home of baseball legend Eddie Murray and the House of Rock in Los Angeles. A steady pipeline of KNX projects will reveal more and more significant installations in 2016. Launched at LIGHTFAIR International, KNX National Group USA now includes 20 members and of-



KNX USA President David Thurow

fers extensive KNX Certified training through DMC Technology, an accredited KNX Training Center, in California, New Jersey and Illinois. Online webinar content, additional resources and support are also available. For more information, please visit www.knx.us.

“We are delighted at the progress KNX is making in the USA,” says Franz Kammerl, the President of the KNX Association. “The recently formed KNX National Group is taking an active, and increasingly influential, role in meeting the demand from the market. In 2015, we have opened the door for KNX in the USA, in 2016 and the years ahead we will push right through to create more and more opportunities for the KNX community.”



The Art of Light

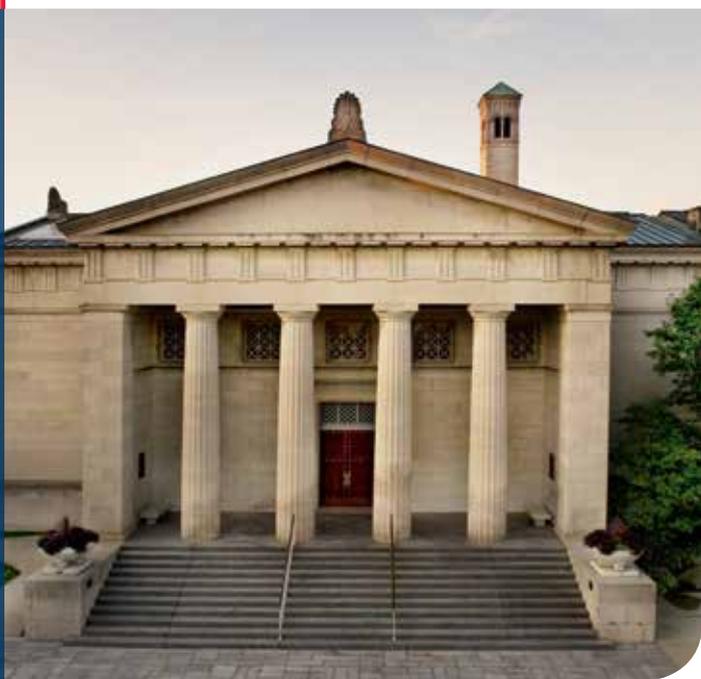
Cincinnati Art Museum upgrades its lighting to KNX

The Cincinnati Art Museum is one of the oldest art institutions in the United States.

Since 1881, it has been committed to the community and its members, continually adding to its rich collection of more than 65,000 works of art that span more than 6,000 years.

The collection includes the ancient art of Egypt,

Greece, and Rome; Near and Far Eastern art; art of Africa and the Americas; prints, photographs, paintings, sculpture, contemporary art, and more. Some of the museum's most notable gems include the only collection of ancient Nabataean art outside of Jordan and the renowned Herbert Greer French collection of old master prints.



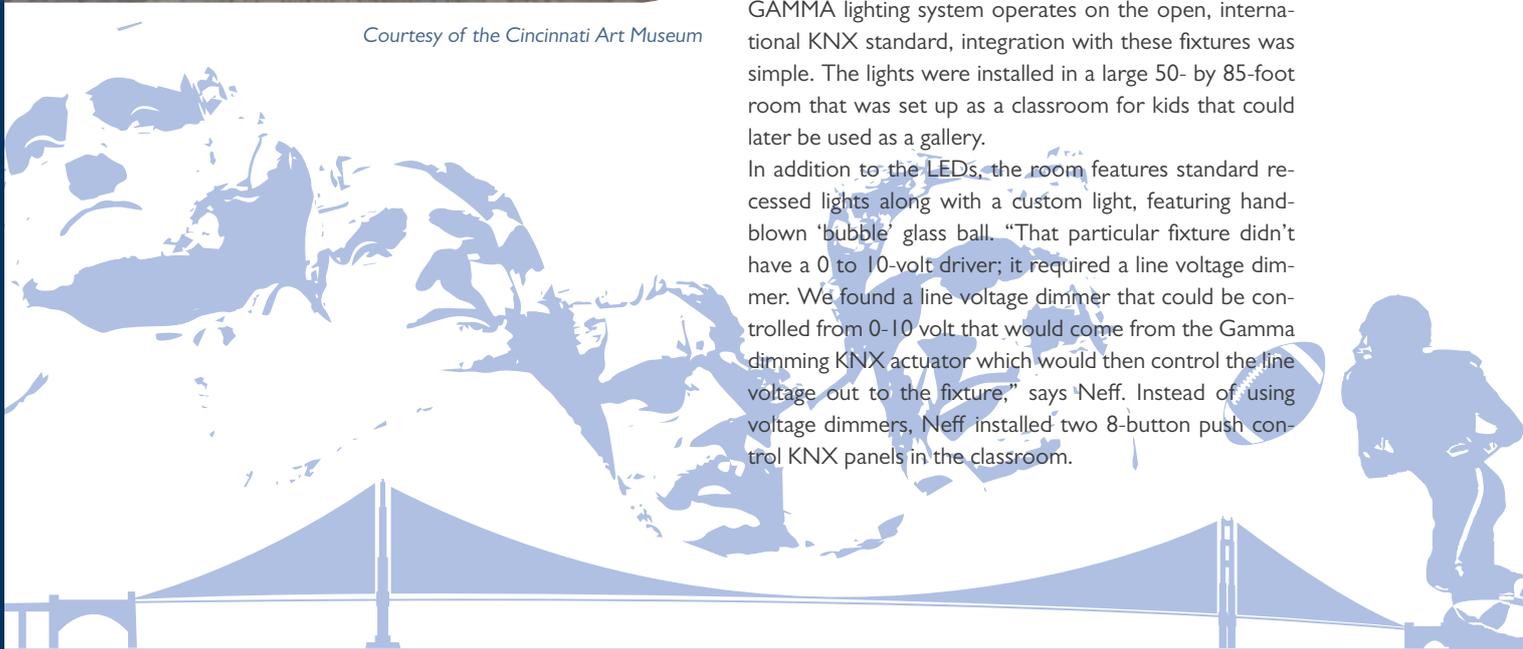
Courtesy of the Cincinnati Art Museum

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As with any museum, proper lighting design and control was imperative, not only to show works to their best possible advantage, but to protect them from long-term damage. The Cincinnati Art Museum wanted to upgrade its lighting and install new fixtures and called in Christopher Neff, Engineering Specialist at Siemens, to ascertain the scope of the project and engineer the system.

The museum has special lights brought in from China with about 400 LEDs in one fixture. Because the Siemens GAMMA lighting system operates on the open, international KNX standard, integration with these fixtures was simple. The lights were installed in a large 50- by 85-foot room that was set up as a classroom for kids that could later be used as a gallery.

In addition to the LEDs, the room features standard recessed lights along with a custom light, featuring hand-blown 'bubble' glass ball. "That particular fixture didn't have a 0 to 10-volt driver; it required a line voltage dimmer. We found a line voltage dimmer that could be controlled from 0-10 volt that would come from the Gamma dimming KNX actuator which would then control the line voltage out to the fixture," says Neff. Instead of using voltage dimmers, Neff installed two 8-button push control KNX panels in the classroom.





Cincinnati •

Thanks to its ease of integration and compatibility, this KNX technology can be scheduled by the Siemens APOGEE building management system. “We could have used the APOGEE relay outputs, but they are only good for three amps,” says Neff. “I would have had to add an additional relay to take the system up to a higher current. With the lighting system at 20 amps, you don’t have to do that intermediate step.” Because the museum lighting is fairly static, the system schedules run like clockwork and add energy efficiency, but changes can also be made with ease. After the lighting system was completely set up, the museum decided they wanted to add some display cabinets with lighting, as well. Now, they are finding out that the KNX system can automatically turn these displays on and off. “We added more circuits to them for additional control and so staff doesn’t have to go around and turn them off manually,” says Neff.

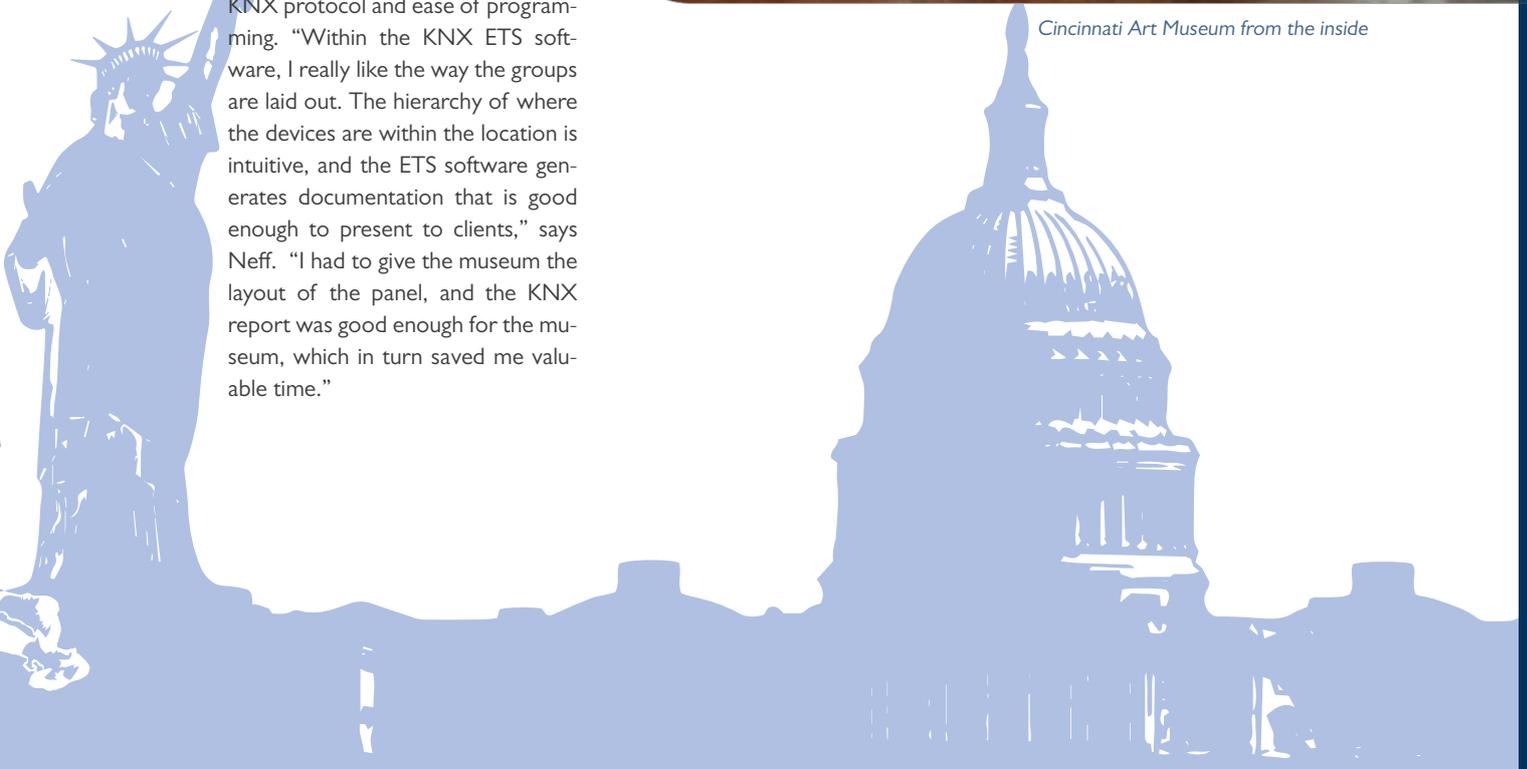
As for the project’s technical challenges, there were relatively few. That’s in large part thanks to the KNX protocol and ease of programming. “Within the KNX ETS software, I really like the way the groups are laid out. The hierarchy of where the devices are within the location is intuitive, and the ETS software generates documentation that is good enough to present to clients,” says Neff. “I had to give the museum the layout of the panel, and the KNX report was good enough for the museum, which in turn saved me valuable time.”



Museum Director Cameron Kitchin and Richard Rosenthal, March 2014.



Cincinnati Art Museum from the inside



When the Sun Goes Down on Sunset Strip

An upscale condo in Los Angeles puts KNX technology in the spotlight

A few years ago, a high-profile musician in Beverly Hills contacted a local integrator to install his KNX based home automation system. DMC Technology has now improved the KNX system for more functionality and easier usability. The owner agreed to allow DMC to use his home as a showroom for KNX technology and home automation.

A few years ago, a high-profile musician in Beverly Hills contacted a local integrator to install his KNX based home automation system. DMC Technology has now improved the KNX system for more functionality and easier usability. The owner agreed to allow DMC to use his home as a showroom for KNX technology and home automation.

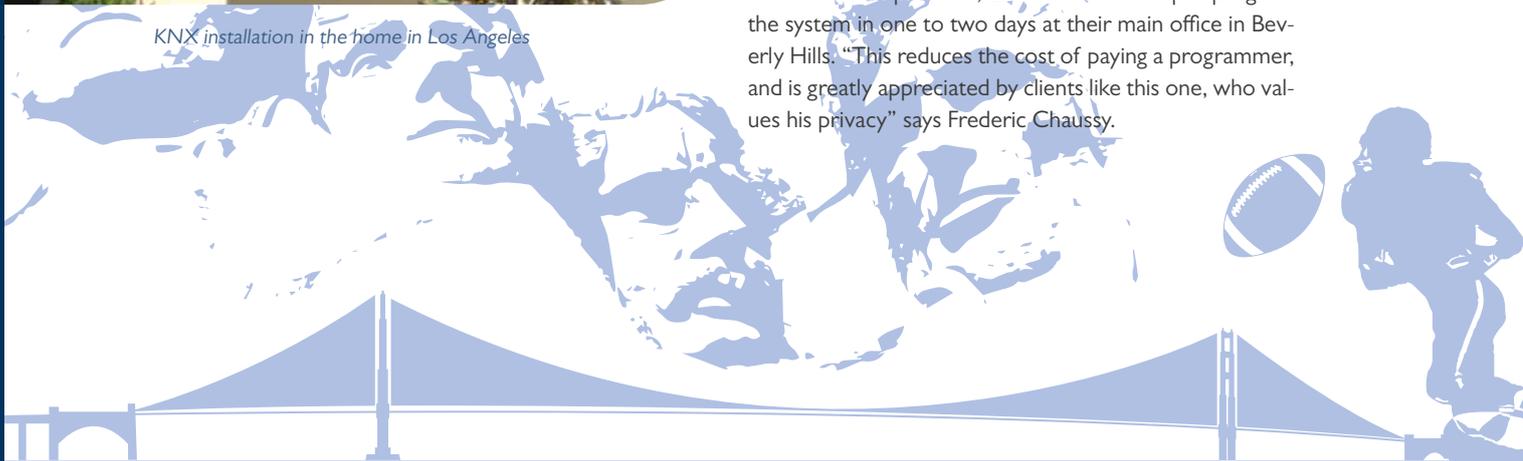
“This was an incredible opportunity for us, because the homeowner is a very prominent figure in the music industry and has many friends and associates over to his condo,” says Frederic Chaussy, COO & Co-Founder of DMC Technology. “In turn, we had several clients who were interested in KNX technology for their own homes and this was an ideal real-world Los Angeles residential showcase.”

The first step when Frederic Chaussy, his business partner Marc-Antoine Micaelli, CEO & Founder and Christophe Lavergne of DMC Team, began their work was to assess the existing system. “Marc-Antoine created an electrical map of the condo to determine how everything was configured. Then Christophe Lavergne was able to remotely design an interface based on the electrical CAD plan, giving the homeowner a Vectorial 2D model of the home on his iPad and allowing him to control different areas on an actual map of the home,” says Frederic Chaussy. This custom interface offers one-touch operation of the condo’s systems and makes it easy for the homeowner to turn things on and off, expand upon a room view, and understand the system graphically. “We work much like architects in that regard. The floor plans are extremely important to us, whether it’s a new build or a retrofit,” adds Marc-Antoine Micaelli.

Normally, creating a custom graphic user interface for a control system might take a programmer three weeks parked on their customer’s couch with their laptop, but with the KNX protocol, DMC was able to pre-program the system in one to two days at their main office in Beverly Hills. “This reduces the cost of paying a programmer, and is greatly appreciated by clients like this one, who values his privacy” says Frederic Chaussy.



KNX installation in the home in Los Angeles





High comfort thanks to KNX

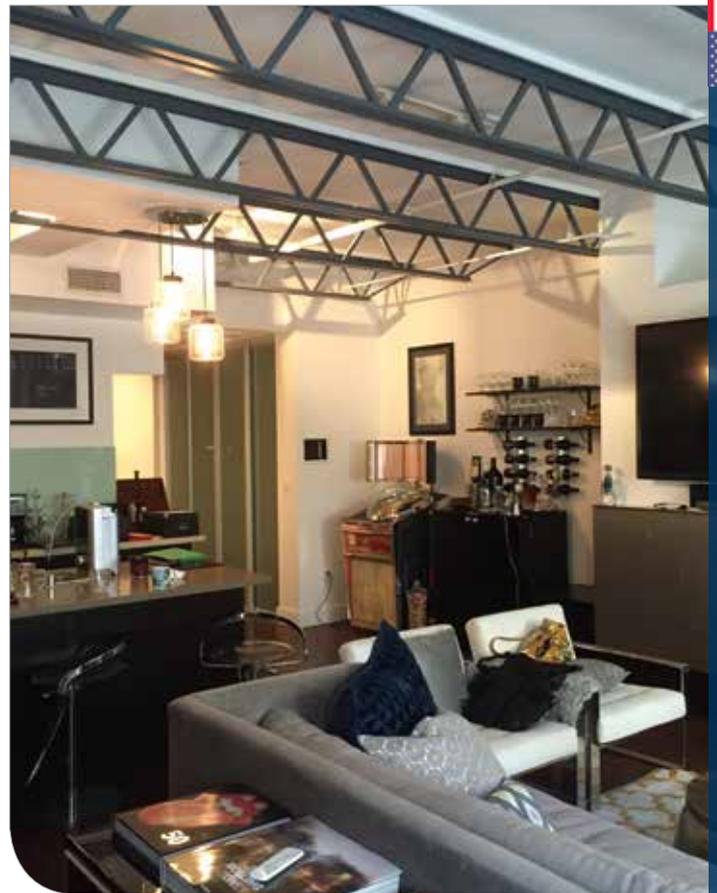
To that end, the KNX technology here can also be remotely managed offsite, meaning that if there is a technical problem or the homeowner wants to change a certain feature, it can be handled in a matter of minutes from DMC's offices. "That kind of flexibility allows you to respect your clients' time, and that makes them happy."

When it comes to remodeling, Frederic Chaussy notes that while wireless is on trend to easily incorporate various high-tech systems into the home, with KNX technology now available in the U.S., it isn't necessarily the best option. "For this kind of installation and for big houses, wireless is not a good choice," he comments. "Wireless systems can be unreliable. The KNX protocol can be installed via the existing home wires like twisted pair, making it just as noninvasive as wireless, yet way more reliable."

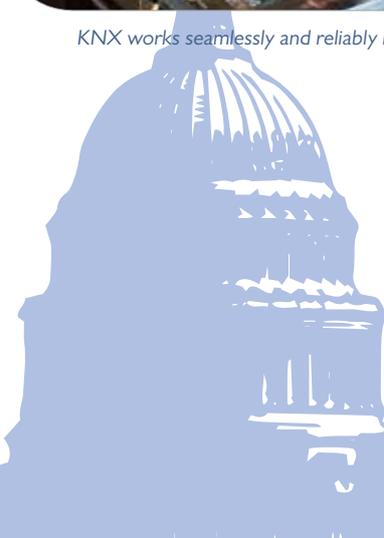
The condo is now a prime showcase for how home automation technology can be done right, with the KNX system controlling the lights, HVAC, and shades.

A feather in DMC's cap, this is also the first place in which KNX has been integrated with a Sonos music system. When the sun goes down over Sunset Strip, you'll find the homeowner enjoying his favorite music while entertaining other music-industry luminaries.

By day, DMC's Frederic Chaussy and Marc-Antoine Micaelli bring their residential clientele and interested architects to the space to demonstrate how a star KNX system can be made to work seamlessly and reliably in homes of any size.



KNX works seamlessly and reliably in homes of any size



The Workspace of the Future

Flexible organized workspaces thanks to the adaptability of KNX

Dots is an innovative co-work concept and flexible workspace environment located in Beverly Hills, California. The startup launched in April 2015, with the goal of providing a month-to-month, rentable co-work space complete with organic kitchen, state-of-the-art conference rooms, lounge area, mail concierge, and offices. This high-energy, high-design, high-tech hub of activity is open 24 hours a day, seven days a week. Here, creativity is fostered and ideas are incubated. Next door, busy professionals can recharge in the yoga room.

In such a contemporary environment, only the most modern technology would suffice. “When we were called onto the project, Dots had someone else in mind to automate the offices. When shown the KNX technology for their space, they said ‘this is it,’” comments Frederic Chaussy, COO & Co-Founder of DMC Technology.

That’s in part due to KNX’s open protocol, which ensures a high degree of flexibility for any install. For example, the owners of Dots wanted to make KNX work with their booking system, along with a DMX lighting system. The KNX API not only allows this, but also lets the KNX RGB White lighting system, Nest climate control system, access control, energy management, and remote access systems all work together seamlessly.

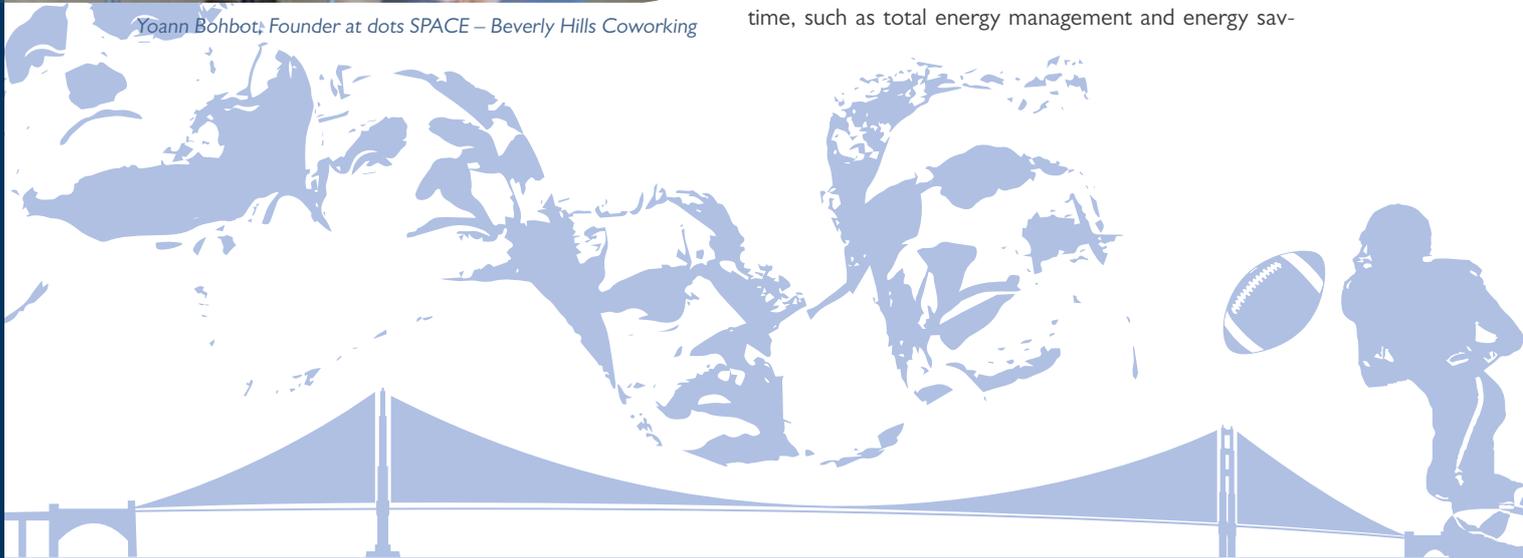
“With KNX, you have a choice of what to integrate, including best-of-breed brands like Lutron, Crestron, and even products from overseas,” says Marc-Antoine Micaelli. “Our area of LA and Beverly Hills demands revolutionary design, as well as something they’ve never seen before. Thanks to KNX, we now have choices because we don’t have to stay within the same ecosystem or even the same country.”

KNX’s international interoperability helped seal the deal for Dots.

“Dots wanted features that were not easy to incorporate using the technology that was available in the U.S. at the time, such as total energy management and energy sav-



Yoann Bohbot, Founder at dots SPACE – Beverly Hills Coworking





California



Together work in a contemporary environment, only the most modern technology would suffice.

ings.” Most automation platforms don’t have energy management for the smart grid, according to Marc-Antoine Micaelli, CEO & Founder DMC Technology, LLC. KNX is a solution that is smart-grid ready and even helps to make the smart grid smarter. And from the Dots point of view, they already saved more than 60% on the energy bill after activation of the energy saving optimisation mode. Because Dots is open 24 hours a day, freedom from the networking woes is critical. KNX is not IP-dependent, so if the office network is down, Dots’ KNX system still works.

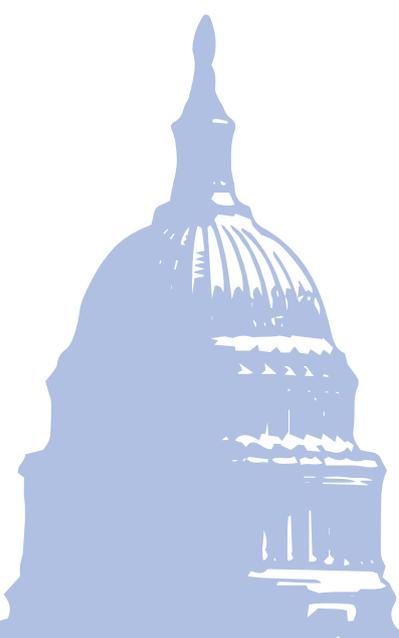
“We can use it the way we want, without worrying about the network. KNX only uses the IP network to communicate with other systems,” says Marc-Antoine MICAELLI. “It was very easy to install our KNX cable where we needed it, and it wasn’t a big deal for the electricians to understand. They are able to figure out things very quickly because there is only one cable. Furthermore, and most often in the U.S., metallic tubing is used for wiring. Using low voltage cable tubing is no longer necessary, which saves a great amount of time.”

After the installation was completed, DMC appreciated the Dots working space so much, it now uses the building as its own headquarters and showroom. It is, in fact, the first KNX training center in the U.S.

DMC is happy with the progress it has made with the KNX protocol in the Dots workspace and in the U.S. at large. It’s always the client that is a testament to the success of any project, however. In this case, the fact that Dots is expanding to several more locations in Los Angeles, Florida, and New York and wants to use KNX devices in all of them is proof enough that the KNX protocol has empowered the workers at this busy, modern-day workspace.



KNX visualisation – RGB White lighting system, Nest climate control system, access control, energy management.



Lighting Done Right

Reser Stadium upgrades to a KNX enabled lighting system

One of the top worries among university IT professionals is that technology can quickly become out of date. As lines lose support over the years or manufacturers force obsolescence, old products become incompatible with new, and it becomes more and more difficult to bring a mature system up to date without going back to the drawing board.

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“Seldom is there a person at any facility who was operating the system when it was first created,” says David Thurow, Senior Product Manager for Siemens GAMMA Lighting Controls. “Often, there is no one left behind who knows how to use the technology.”

When Martin Campbell, Engineering Specialist, was called in to overhaul the existing lighting control system for Oregon State University’s Reser Stadium, easy integration with the existing building management system was therefore imperative. The technology would also need to be upgradeable in the future, and easy to program and use. At the time, the stadium’s lighting control system didn’t work properly. Stadium operators couldn’t get certain lights to come on, or the lights would turn on at strange times, wasting both money and energy. With the help of Kevin Vandeberghe, Lead Electronic Installer, Campbell took the guts out of the lighting control relays and replaced them with Siemens GAMMA lighting control KNX actuators. The GAMMA system features a distributed control architecture that lets the stadium easily manage all aspects of lighting, without worrying about single points of failure. It’s also based on the worldwide KNX open protocol, which is used by more than 400 manufacturers worldwide.

This new KNX system now controls all the lighting in Reser Stadium’s concession stands, main concourse, suites, club rooms, and even the Musco Sport Lighting system.



Reser Stadium upgrades to a KNX lighting system





KNX Project in Oregon

“The Musco lights give the GAMMA system a signal that tells the latter to turn on the lights, and we energize the contactors that bring the Musco lights on.”

Campbell used a BACnet gateway to integrate the lighting into the existing Siemens building automation system. This gateway converts the KNX protocol to that of BACnet, monitoring and commanding points within the lighting system. Because the stadium is such a large venue, electrical rooms are scattered throughout the structure, so all the lighting panels network together using their existing IP backbone. “KNX is very flexible as to how you integrate it,” Campbell adds.

The wow factor of the system happens when the stadium operators turn on any number of preset lighting scenes based on all the various ways the stadium is used. For a game-day event, they can press one icon to turn everything on. For events at the Club level, a scene turns on all the lights there, but also illuminates path or ground lights in the halls and elevators for safety as guests enter and exit. Meanwhile, daylight sensors control the street and plaza lights.

“One of the benefits of having the KNX system integrated into the building automation system is that we can use our control system to create the scenes and the graphic user interface,” adds Campbell. The team simply used the KNX ETS software, greatly reducing programming time.

“We have 300 Siemens devices now that include KNX,” says Thurow. “KNX is in every continent and country, and is growing due to its neutral protocol.” It’s that open standard that is helping to grow KNX systems all over the world.



The GAMMA system features a distributed control architecture that lets the stadium easily manage all aspects of lighting.



The Main Event

The World Trade Center Portland gets a KNX lighting upgrade

The World Trade Center Portland, located on the city's Waterfront downtown Portland, Oregon, is one of the city's most elegant venues. Known for its ambiance, views, and cuisine, the World Trade Center Portland hosts conferences, receptions, weddings, and other festivities. With all this functionality comes the need for both ease of operation when it comes to the venue's technology systems, as well as increased energy efficiency.

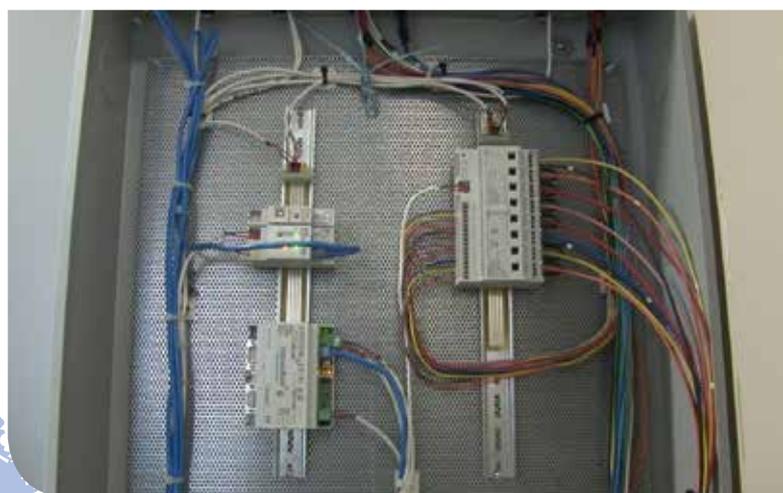
The existing lighting system from a major lighting manufacturer was considered to be the 'Ferrari of Light Harvesting', with scheduling, features, and more. Siemens had installed the previous system, but because it was a third-party vendor and not Siemens' software, servicing and maintenance was proving difficult. "Employees didn't get trained on the system, and if there was a problem, they would have to call the manufacturer who would then have to literally stand on top of someone's desk to see what was failing," says Andrew Mason



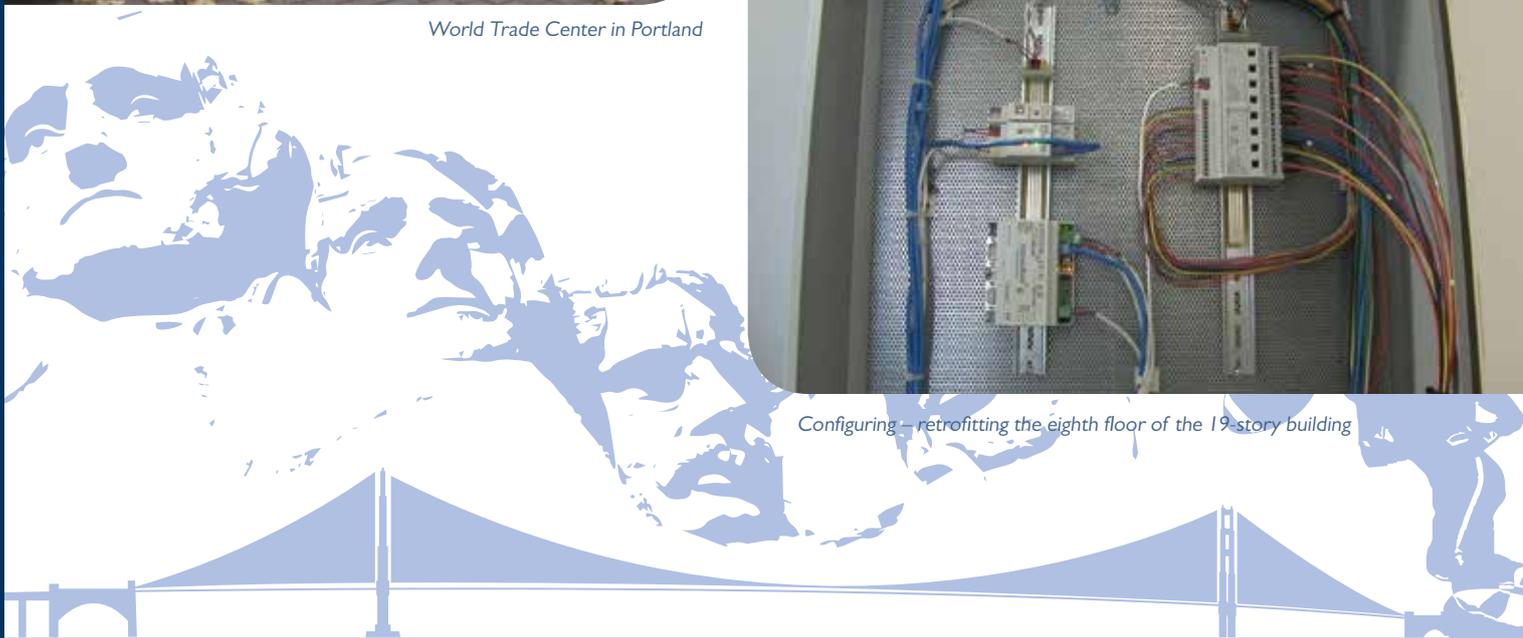
World Trade Center in Portland



Visualisation – GAMMA Lighting System



Configuring – retrofitting the eighth floor of the 19-story building





• Oregon

of Siemens. “Needless to say, the customer didn’t like that.” Mason and the engineering team retrofitted the system with a KNX solution using the GAMMA Lighting System. “A KNX approach allowed the team to ascertain and fix any problem at the front end, and the customer liked this idea a lot considering the company’s previous experience with lighting service calls.”

The team then set about configuring the system, retrofitting the eighth floor of the 19-story building. They programmed lighting scenes and schedules, and they also control the dimming level throughout the building.

“For example, the lighting can be set to 90 %, saving 10 % on energy and nobody notices the difference,” says

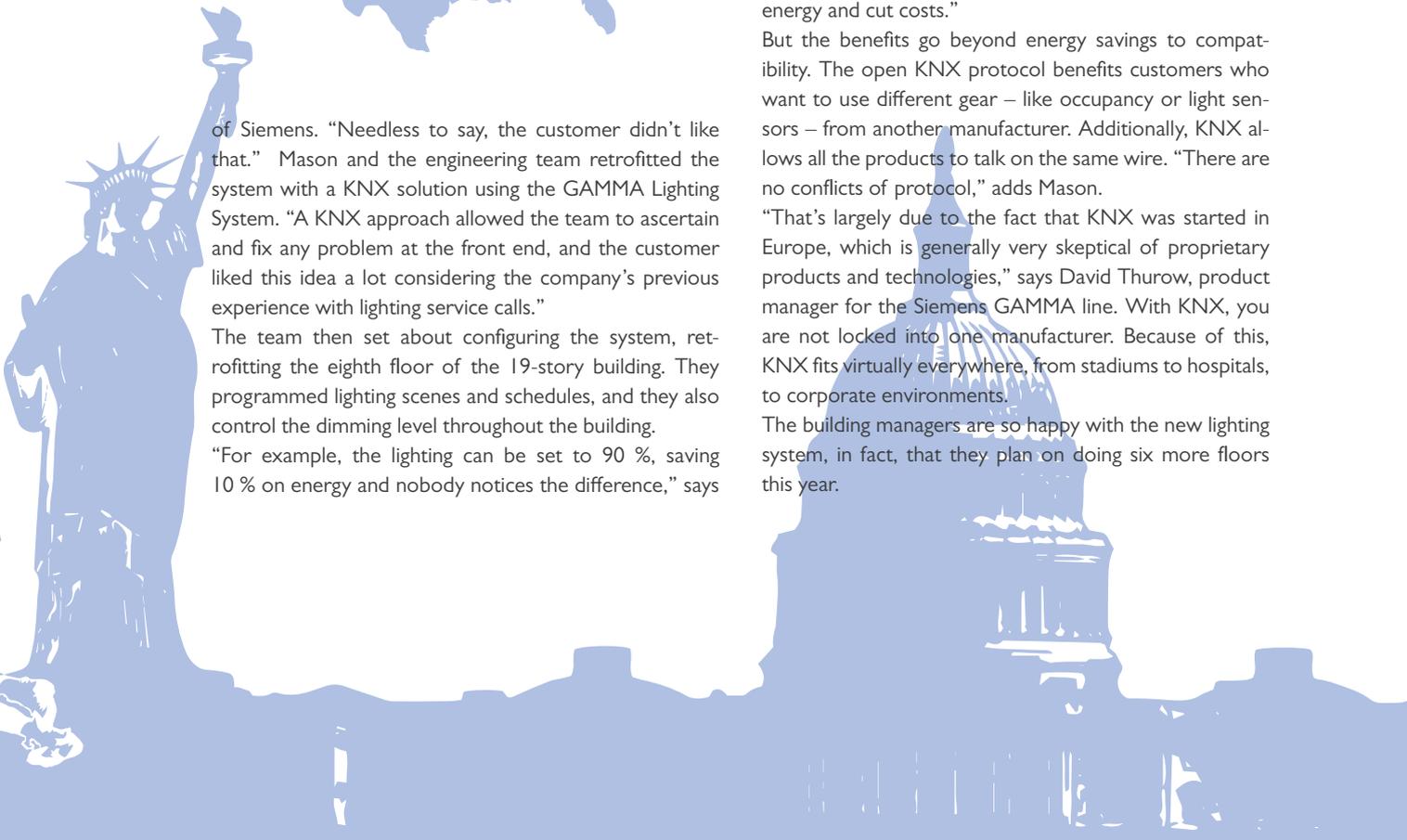
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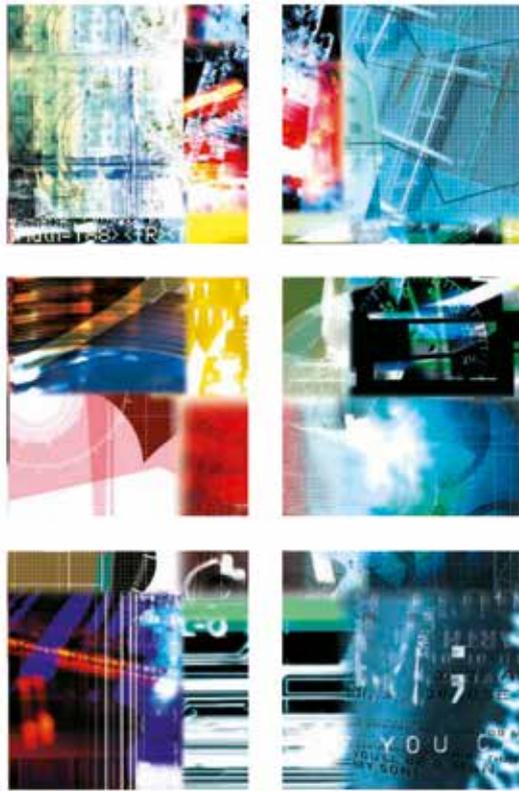
Mason. “The scheduled on and off times also help to save energy and cut costs.”

But the benefits go beyond energy savings to compatibility. The open KNX protocol benefits customers who want to use different gear – like occupancy or light sensors – from another manufacturer. Additionally, KNX allows all the products to talk on the same wire. “There are no conflicts of protocol,” adds Mason.

“That’s largely due to the fact that KNX was started in Europe, which is generally very skeptical of proprietary products and technologies,” says David Thurow, product manager for the Siemens GAMMA line. With KNX, you are not locked into one manufacturer. Because of this, KNX fits virtually everywhere, from stadiums to hospitals, to corporate environments.

The building managers are so happy with the new lighting system, in fact, that they plan on doing six more floors this year.





www.knx.org