

17 floors of the office building with 3,685 Bluetooth mesh lighting controllers

The largest Bluetooth® mesh lighting control installation in the world!

The Idea

Energy Management Collaborative (EMC) specializes in providing leading-edge LED Lighting and Technology solutions averaging 12,000 projects a year for a broad range of multinational retail, commercial, industrial and specialized customers. Now, beyond just lighting, EMC is a leading designer of lighting technology for Smart Buildings and provides professional commissioning services for IoT applications.

EMC was contracted by their client to look for ways to add state-of-the-art networked lighting control providing customized lighting, scheduling, and dimming capabilities with the goal of optimizing tenant spaces, employee work environments, and futureproofing their clients Class A 22-story, 470,317 square foot property.

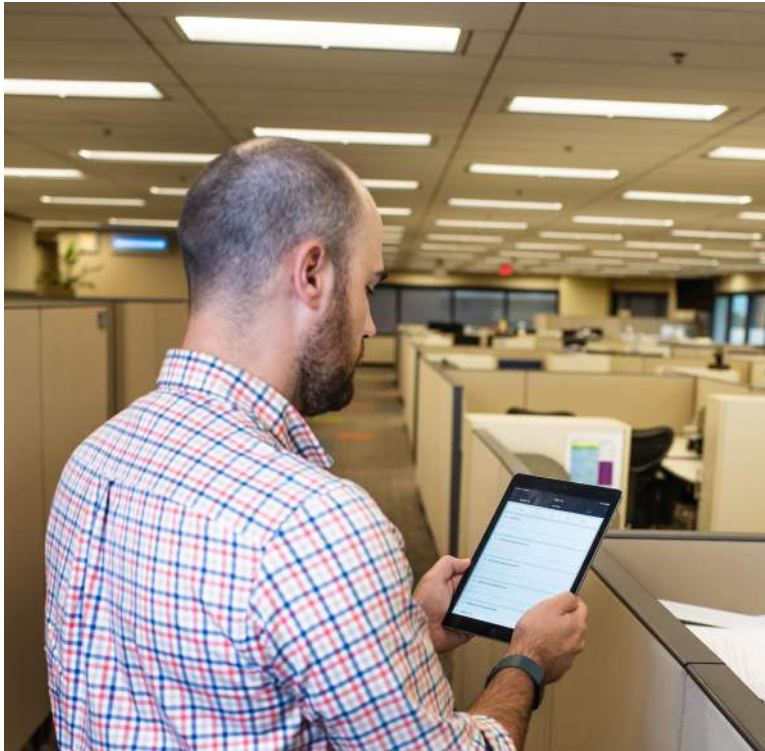
Partnering with Silvair technology partner MwConnect International, EMC designed a luminaire level lighting control solution enabled to provide occupancy, scheduling, and vacancy control scenario's commonly used in tenant office and open spaces with the objective of maximizing efficiency while taking into consideration how users interacted with their individual spaces.



| DETAILS | | |
|-------------|--|---------------------------------|
| Category: | Office | Area: 470,317 sq feet |
| Technology: | Silvair firmware with Qualified Bluetooth mesh and Silvair lighting control tools | Year: 2020 |
| Strategies: | Occupancy Sensing, Vacancy Sensing, Scheduling, Manual Control | Partners: MwConnect, EMC |

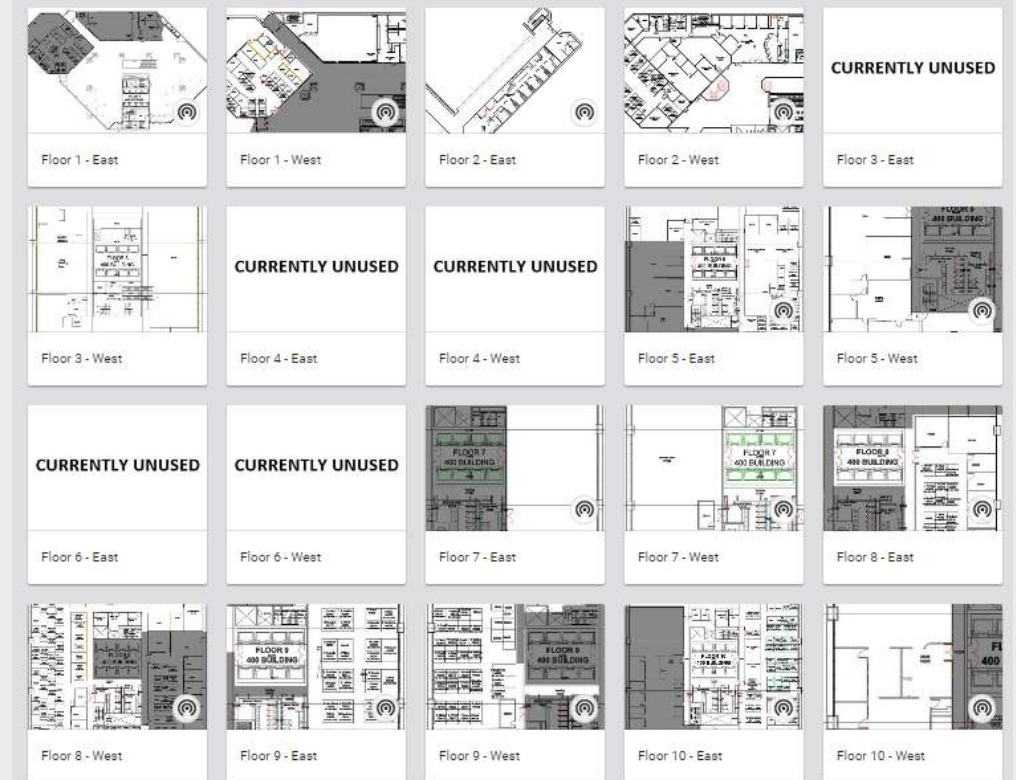
The Solution

Silvair is a technology provider to partners such as MwConnect International, who develop interoperable SIG qualified Bluetooth mesh wire-less lighting control solutions. For this project, Silvair partner MwConnect International provided its TruBlu™ solution, including the Bluetooth mesh device that was integrated directly into each luminaire. This particular device was MwConnect PSCI-RD-DC0-BLE-SR, which is a low voltage Bluetooth mesh enabled PIR/ALS Sensor controller with 0-10V output to an LED Driver. These luminaires, installed with MwConnect's TruBlu Bluetooth mesh wireless PIR/ ALS sensor controller, by-passed the existing electrical lighting circuitry eliminating the need to pull additional wires. This also allowed installers to keep the customized ceiling tiles in place and reconfigure when needed using MwConnect TruBlu software tools rather than getting above the ceiling to pull and connect physical wiring.



SILVAIR

Utilizing Web App the floor plans are imported, areas created for the project. 43 areas were created for a single project across the 17 floors.

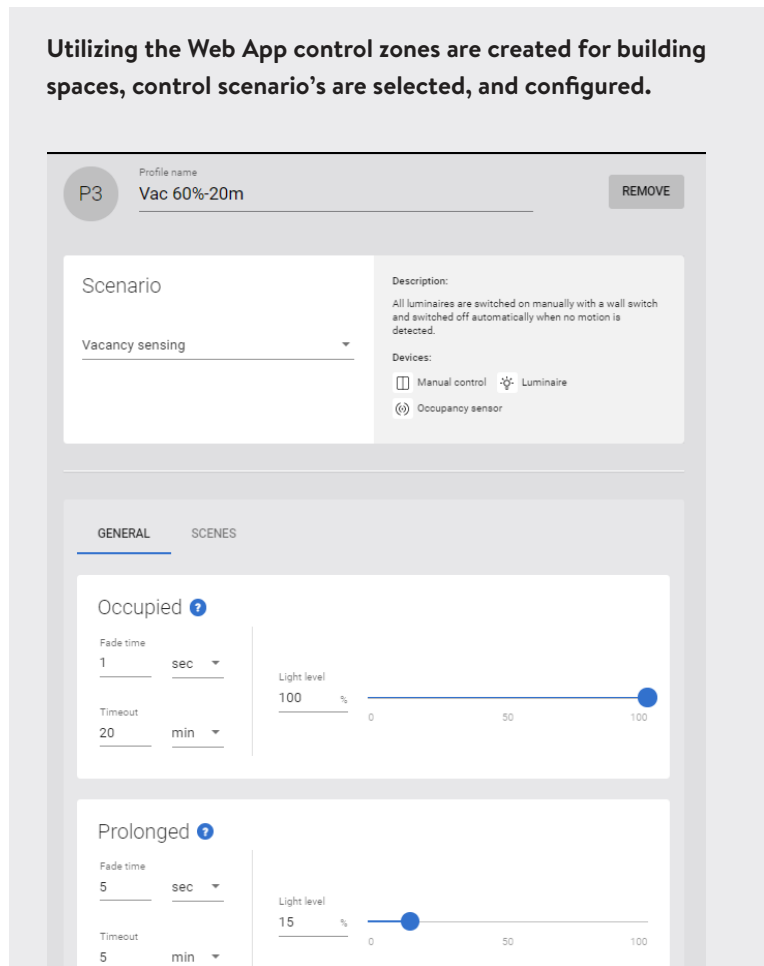


The Project

The project itself consisted of 3,685 Bluetooth mesh MwConnect TruBlu lighting controllers (installed in fixtures). Utilizing the TruBlu web app, EMC designed the project with 43 areas and 708 zones. This work was accomplished off-site using the TruBlu web app from MwConnect, Silvair's technology partner, which provides tools for project creation, design, and configuration all prior to on-site commissioning. The control scenarios were configured for either occupancy, vacancy, manual, or by schedule. Configuration was easily customized or replicated for each zone based on the space requirements.

Once the project was fully designed, EMC provided on-site commissioning utilizing the branded MwConnect TruBlu commissioning tool. This cloud connected app, pulls down the already created configuration and uploads to the installed devices during the commissioning process. As the crew progresses through the commissioning process, the project manager is able to view “live” progress through the MwConnect TruBlu reporting feature. This feature provides real-time status reports so that progress can be monitored and issues can be identified and quickly remedied.

Utilizing the Web App control zones are created for building spaces, control scenario’s are selected, and configured.



Project reporting provides real time status reporting of commissioning providing project managers off-site management of the process.

The Results

EMC provided turnkey project management throughout the project, which expanded in scope to include installing 3,685 luminaires. Each luminaire was equipped with a single DLC-certified MwConnect Bluetooth mesh controller. In addition, the building owner requested to add control to existing luminaires in additional spaces accounting for an additional 225 Bluetooth mesh nodes added to the project. Highlighting the power of the Bluetooth mesh interoperable standard, these additional components were seamlessly added to the network lighting control system and worked inter-operably with the luminaire lighting controllers. Enabled by MwConnect TruBlu network lighting control features, EMC deployed vacancy and occupancy scenario's for most of the project zones and in addition configured the high-end trim to as low as 60%. This combination of scenario's and settings provided an expected energy savings in excess of 75% over and above that gained by LED's alone. As space needs change the new system can be wirelessly rezoned as needed to accommodate future reconfigurations of floor layouts. To date this is the largest SIG standard Bluetooth mesh lighting control installation in the world, confirming its useability for large node lighting control projects.

Partners:

