

Leadership Perspectives

Laying the foundation for a brighter future.



The pandemic has spotlighted the need to rethink traditional working and operating models for a multitude of industries, opening opportunities for organizations in the public and private sectors to reconsider how they evolve their environments to meet new state and local reopening requirements and safety protocols, but also achieve other benefits - particularly in areas like energy efficiency and sustainability. In a discussion between Stefan Schwab, CEO of Enlighted, and Carlo Vazquez, vice president of facilities management and chief facilities officer at the Community College of Allegheny County (CCAC), the two discuss the unique benefits that building intelligence technologies can offer academic institutions.

Leadership



Stefan Schwab
CEO, Enlighted,
a Siemens company



Carlo Vazquez
Vice President and
Chief Facilities Officer,
Community College
of Allegheny County

Tell us more about your role at the college, and how you will lead the implementation and rollout of the COVID-19 mitigation project just announced with Enlighted?

I am the vice president for facilities management and chief facilities officer at the Community College of Allegheny County (CCAC). We recently embarked on a campus modernization and COVID-19 mitigation project that redesigns the building management system in order to increase airflow and minimize COVID-19 exposure, in line with Centers for Disease Control and Prevention (CDC) guidelines. The project implementation will cover thirteen buildings across four campuses and more than 1.8 million square feet. The data we collect will be centralized on the servers located at the Allegheny campus.

We designed this project with the support of Enlighted and several other local engineering firms as we sought the best solution for COVID-19 mitigation, while furthering additional goals for reducing energy costs and conserving power consumption.

Safely reopening schools introduces a set of unique challenges given the large numbers of students in a classroom and close proximity that occurs in hallways, common areas, etc. that make it prohibitive to achieve social distancing. Staggered entry, like in an office, is not as simple for academic institutions as it is for office environments. What are some of the other challenges that schools bring to reopening, compared to a traditional corporate environment?

When it comes to space in learning environments, a big challenge is presented. In the office, you can cadence people's attendance but that's not feasible for most academic institutions. The high volume of people, and the increased number of people who are close to each other in small places, increases the chances for COVID exposure.

Subsequently, we needed to shift to a "hybrid" learning model, which is a slightly different model from hybrid working. At several points during the pandemic, the

university was completely virtual. As the vaccines were rolled out in spring 2021 and personal protective equipment (PPE) became more widely available, we were eventually able to transition to 70% virtual/30% in-person. Before COVID-19, we didn't offer any virtual classes.

Virtual learning environments are a drastic change from what we are accustomed to. Which functions were brought in, as CCAC adapted its physical buildings to be safer environments and curriculum to a hybrid format?

We needed to reconstruct our curriculum to offer remote learning and hybrid courses, which are offered in a "blended" format by offering classes that have one or more face-to-face sessions at one of CCAC's campuses or centers and at least one or more online sessions. In order to meet capacity requirements at different points during the pandemic, we worked closely with the Scheduling Office so that our space planning was in-line with the building and room requirements for the curriculum.

What learnings did you take from similar initiatives at University of Texas at El Paso, for example?

That was purely an energy savings project - this project is focused on COVID-19 mitigation. That said, both projects produce significant environmental benefits and cost savings as they're using similar technology.

What is the role of data in this project and how does that contribute to achieving COVID mitigation or increased energy efficiency?

The data is what makes this project a reality. The sensors that are attached to a new LED fixture are the baseline of our operation; thanks to that technology from Siemens and Enlighted, we are able to source occupancy and utilization data to automate heating, ventilation, and air conditioning (HVAC) and lighting for spaces that are being used, in order to optimize power consumption and reduce costs.

How does this project fulfill the college's CCAC sustainability goals through the campus as well?

This project comes with a lot of byproducts and benefits, and one of them is the sustainability goals it will help us achieve. This project is going to reduce the amount of kilowatts (kW) that we're consuming on a daily basis, significantly impacting our short-term goals for cost reduction and long-term decarbonization goals.

How does LED lighting improve the learning experience for CCAC students? How do sensing controls and LED lights impact COVID-19 mitigation?

There are so many benefits - from space management and reduced energy costs to increased productivity for both students and facilities staff. Intelligent lighting controls enable full customization to provide the ideal environment for students. The campus can easily control task and color temperature and set up occupancy and daylight-based smart lighting controls through its software designed to make modifications easy. The combination of Internet of Things (IoT) sensors with data analytics software can also deliver incredibly useful insights for energy optimization and savings.

The need for increased airflow - and heightened focus on creating safe and healthy environments - is a relatively new health protocol reinforced by COVID-19. What do you predict is the long-term impact of COVID-19 on how we approach facilities management and planning?

Since its inception, CCAC has been dedicated to providing a safe and healthy academic environment for students, faculty, and staff. The campus modernization project is part of a broader long-term strategy for transforming our campus into the most innovative, safe and sustainable campus of the future.



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