



CASE STUDY

The University of Florida advances learning, operations, and resilience

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As one of the nation's flagship public research institutions, the University of Florida (UF) encompasses dozens of historic buildings, advanced research facilities, and critical infrastructure across their expansive 2,000-acre campus. Because of their impact throughout the state and nationally, UF leaders are committed to continuously evolving while still preserving reliability for students, faculty, and research programs.

University of Florida by the numbers

- 61,000+ students
- 30,000+ faculty and staff
- 2,000 acres
- Over 1,000 campus buildings

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But it's not just about what we're doing today. It's about if what we're doing today that will still make sense 30 years from now, so the people who come after us can say that we really thought this through."

Mark Helms

Assistant Vice President, Facilities Services
University of Florida



To meet these challenges and more, UF and Siemens have worked together for decades as partners to think holistically about the campus as a living system.

The campus as a living system

Operating a campus this large requires constant balance. Research environments demand precise temperature and humidity control. Utility plants must operate with high efficiency and reliability. Deferred infrastructure renewal cannot be ignored without compounding risk.

UF facilities leaders view the campus as an interconnected system — rather than a collection of buildings. Decisions made in one district affect operations elsewhere. Improvements in utility performance unlock funding for reinvestment across campus.

Through this systems-based philosophy and approach to campus transformation, Siemens has helped UF realize more than \$7 million in utility savings and eliminated more than \$60 million in deferred infrastructure renewal backlog. Moreover, Siemens is guaranteeing an additional \$20 million in utility savings over the next 20 years. By making smart investments in targeted projects that stretch limited funds while driving change, UF can reinvest in campus infrastructure, research continuity, and student experiences.

A partnership built over decades, not projects

In the late 1990s, UF engaged Siemens for traditional building automation system support. Over time, that relationship expanded as campus leaders sought a partner who could help them navigate the growing complexities of operating a university campus. Today, Siemens and UF work shoulder to shoulder across facilities, utilities, and academic environments to align infrastructure decisions with long-term institutional goals.

Facilities Services on campus manages:

- 24M+ gross square feet of building space
- 10 energy plants with 47,000 tons of cooling capacity



\$7M

in utility savings



**Eliminated
>\$60M**

in deferred infrastructure
renewal backlog



\$20M

additional utility savings
over next 20 years

Modernization as a path to resilience and financial stewardship

"The main objective of any university is to educate students and create tomorrow's leaders. Anything we can do to enhance that learning experience, that student experience on campus, that's my objective," explains Helms.

For its campus transformation, UF and Siemens have worked together to implement wide-ranging infrastructure modernization programs. They've done so while maintaining financial discipline by leveraging Energy Saving Contracts (ESCOs) as a delivery and funding mechanism.



Our responsibility is to make sure the campus is resilient, innovative, and taken care of, and that we're on the cutting edge of a lot of the technologies we're using today. We look at how building systems operate and rely on our building automation system to understand efficiencies."

Gregg Clarke

Senior Director of Operations, Facilities Services
University of Florida



Recent Campus Improvements	Description	Results
Holland Law District Distributed Energy Plant with microgrid and battery storage	Construction of a new boiler plant Renovation of an existing chilled water plant, installation of distribution piping, and replacement of other mechanical infrastructure Successful pilot of district-level microgrid with battery storage and renewable energy integration	• Applied ESCO model to a district of campus that impacted multiple building types • First campus deployment of battery storage and microgrid • Local heat plant resolved failing steam infrastructure issue • Improved resilience • Load shedding • Islanding capability for critical campus zones
College of Veterinary Medicine Distributed Energy Plant	New 15,000 sq. ft. chiller / boiler plant, funded through energy savings, with Desigo® CC, Demand Flow® smart technology, automation, and Demand Flow smart services	• Improved plant efficiency, reliability, greater resilience • Reduced energy consumption • Reinvestment of savings into campus infrastructure priorities • \$13M project funded by energy savings
Siemens Laboratory for Technology and Innovation inside Collaboratory Building	Integrated smart building systems and technology as a living learning laboratory Showcase for the latest building technology, innovation, learning, and collaboration	• Dedicated space with the latest smart technology for hands-on learning and interdisciplinary collaboration • Past Siemens grants through EMPOWER+ helped establish LEED® and WELL® Building Standards Labs and sustainability curriculum and programs for UF students and Historically Black College and Universities (HBCUs).

Bridging operations and academia to prepare the workforce of the future

What makes the UF story distinct is how closely operational modernization connects to the academic mission. That is, facilities teams do not operate in isolation. They collaborate with faculty, researchers, and students to ensure that campus infrastructure creates ideal learning opportunities. In this way, the campus itself becomes a platform for discovery, experimentation, and applied learning.



I'm a big proponent of academia working in partnership with industry. For our students, we don't want them to just understand theoretical issues. We want them to have practical experience and knowledge, which industry partnerships bring. Also, industry can bring to us real, practical problems so our students will understand what is likely to come up for them in the future."

Chimay Anumba

Dean, College of Design, Construction and Planning
University of Florida



The Collaboratory as a living laboratory

At the center of this is the Bruno E. and Maritza F. Ramos Collaboratory, a new model for interdisciplinary learning and student-centric spaces. In the Siemens Lab for Technology and Innovation, building automation, lighting, fire safety, security, and digital platforms converge to create a real-time learning environment on a single digital platform, Siemens Building X®.

The Collaboratory is supported in part by a grant from the Siemens EMPOWER+ program, which has long bridged educational and facilities stakeholders at UF. In this space, students and faculty can interact directly with live building data, exploring how building systems respond, adapt, and perform for real-time exploration and workforce skill building. According to Seth Watts, Executive Director of Advancement for the College of Design, Construction and Planning: “The Collaboratory is a game-changing building here on campus from an innovation and technology standpoint.”



Rather than teaching about smart buildings, the Collaboratory allows students to learn inside one. This building transforms infrastructure into curriculum and data into a shared resource for collaboration across disciplines. The Collaboratory also reinforces the university’s role as a talent pipeline, wherein UF students graduate with hands-on experiences in working with advanced building systems, digital twins, and data-driven decision making. Graduates enter the workforce with practical understanding of how modern campuses and complex facilities operate. They are prepared to contribute on day one, whether in design, construction, facilities management, or technology roles.



When folks walk into the Siemens Laboratory for Technology and Innovation, they're going to see the future of this profession and this industry, and everyone will want to be a part of it. That is what we're training the workforce for – to get out there and do some amazing things in our built and natural environment."

Seth Watts

Executive Director of Advancement
College of Design, Construction and Planning
University of Florida



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A Smart Campus for the next 100 years

Because they view the campus holistically as an integrated system, UF leaders and Siemens make infrastructure decisions with a 100-year horizon in mind. They seek to understand how systems perform today, as well as how they can support future research, evolving pedagogy, and changing campus needs decades from now.

Says Dean Anumba, “We are very excited about what we have been able to accomplish. And with the new Collaboratory building as well as all the other technologies that surround us, we feel very well equipped to go into the future with confidence. This work with Siemens helps us to position ourselves for the next 100 years.”

Helms concurs, adding that when prospective students are considering UF, “They can reach out and see the largest living lab they could ever see. No matter what they’re trying to do, we’re probably doing it here on campus – optimizing an energy plant, setting up a digital twin, we have it all. They don’t have to go somewhere else in the state because it’s all happening right here.”



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