# Campus transformation at the University of Florida

## Empowering teams, deploying advanced technologies and leveraging energy service company partnerships

***By Mark Helms and Margo Thomas***

Campus facilities management teams aren't likely to cure cancer. But if they're doing their jobs and keeping buildings comfortable, clean and well-lit, they're creating an environment where such discoveries are possible.

At the University of Florida, which has about 1,000 employees and 62,000 students, the facilities services team oversees 27 million square feet across 900 buildings. Those include academic and research buildings, laboratories, libraries, residence halls, NCAA Division I athletic facilities, and the area's only Level 1 adult and pediatric trauma center.

Behind the scenes, a transformative infrastructure modernization continues to unfold on the Gainesville campus thanks to a strong strategic vision and a willingness to embrace technological innovation and form key partnerships, turning a capital renewal backlog into a platform for resilience and efficiency.

### A REALISTIC BUT VISIONARY PLAN FOR MODERN FACILITIES MANAGEMENT

Three core tenets guide what UF is doing:

- Empowering teams and subject matter experts to follow a holistic approach to transformation;
- Deploying advanced building technologies to drive operational savings and create energy-efficient spaces;
- Leveraging energy services company, or ESCO, partnerships to renew existing infrastructure and accelerate savings.

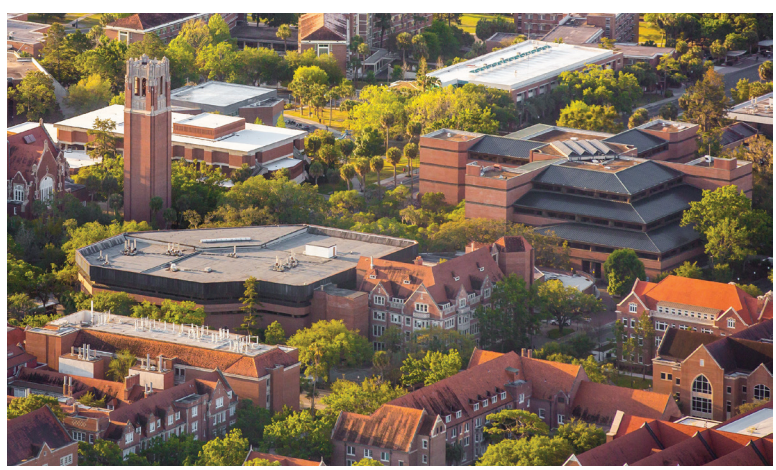
Today, UF's facilities services team is approaching $100 million in savings since 2016 by making smart investments in targeted projects that stretch limited funds while driving change.

**An approach that goes well beyond patching up aging distribution systems.**

The university's approach goes beyond patching up aging systems. Every capital renewal project is designed to solve today's needs while laying the groundwork for a smarter, more resilient campus tomorrow.

The university operates 10 energy plants across its campus that have a collective 47,000 tons of cooling capacity distributed through about 50 miles of underground chilled water and steam distribution piping. Until recently, these plants were not interconnected, resulting in inefficiencies and limited flexibility, and making it difficult to achieve necessary redundancy.

UF can now dynamically shift loads based on real-time needs, enabling more strategic use of resources, avoiding downtime during peak periods, assuring continuous service for critical areas, and improving efficiency through smarter load balancing. UF also redistributed 3,200 tons of spare capacity, eliminating the need to construct a $10 million peaker plant to serve a growing area of campus.



Over the past decade, the University of Florida in Gainesville has invested $66 million to help fund projects that would otherwise require capital expenditures, ESCO, or energy services company projects, across its campus.
David Dubois

### EMBRACING DIGITALIZATION AND DATA-DRIVEN DECISION-MAKING

Traditional manual approaches to operations can no longer keep pace with the needs of today's campuses. That's why digitalization is at the center of UF's campus transformation, allowing facility managers to make more informed decisions, stretch their resources and optimize building operations.


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The campus recently updated much of the system's piping while interconnecting its 10 plants, which have a collective chilling capacity of 47,000 tons.
Siemens

Today, managers better understand campus assets and what they cost to maintain. Modernization has included upgrades to the campus CMMS (computerized maintenance management system) to allow for a clearer view of facility conditions. As a result, UF can make investment and maintenance decisions based on equipment performance rather than age.

UF is now exploring advanced technologies including pilot projects with Siemens, NVIDIA and AutoDesk "digital twin" technology, which is expected to find more ways to improve operations across campus by leveraging data. Such applications interconnect campus buildings and utility plants through real-time information that ties into the campus CMMS and AssetWorks, an enterprise management system, to provide better maintenance delivery.



Through these improvements, UF redistributed 3,200 tons of spare capacity, eliminating the need to construct a $10 million peaker plant to serve a growing area of campus.
Siemens



## BETTER-INFORMED PRACTICES THROUGH ESCO PARTNERSHIPS

The university has also built an ESCO partnership with Siemens to renew its campus infrastructure.

Today, instead of asking, "Can we afford to do this?" campus leaders can reframe investment questions around how savings and gained efficiencies with smarter technology can result in more informed infrastructure investments.

The results have been impressive. The campus has implemented $66 million in ESCO projects over the last 10 years that have led to $94 million in cost savings. The campus's Holland District ESCO, which is nearing completion, combines infrastructure renewal with energy efficiency by integrating solar, battery storage and advanced building controls to establish a flexible and efficient microgrid within the campus.

The university's next ESCO project will focus on its largest energy-consuming research building; work that is expected to avoid $39 million in infrastructure renewal costs while delivering more than $7 million in annual energy savings. That translates to more than $180 million in value to UF over the 20-year life of the project.




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