

# Powering the Future of Healthcare

AdventHealth's canopy solar project cuts carbon emissions, saves costs, and future-proofs its critical healthcare operations.



Photo credit: ESA

## Background

**AdventHealth** is a leading healthcare system with more than 80,000 caregivers across 50 hospital campuses. Their team set ambitious targets to cut carbon emissions by 50 percent by 2030 and reach net-zero by 2050. To accelerate that journey, AdventHealth turned to ESA, a national solar and storage developer, to design and deliver an on-site solution at its Altamonte Springs corporate campus.

Working closely with AdventHealth, ESA evaluated the health system's facility portfolio and identified the headquarters as the ideal pilot site. ESA then selected Terrasmart for their decade-long expertise in parking-garage and canopy racking.

This project is a testament to Terrasmart's design ingenuity and the power of partnership.

|   |                                                                                                                                                                                                             |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | The project was developed in collaboration with solar development platform <a href="#">ESA</a>                                                                                                              |
| 2 | It was strategically designed and executed through close coordination with the city of Altamonte Springs and Duke Energy                                                                                    |
| 3 | Terrasmart's scope included full design, fabrication, structural work, and material supply, and installation of steel racks and modules, in addition to the concrete foundations needed on the surface lot. |

**“The Terrasmart team brought valuable expertise and a collaborative mindset that helped make this complex installation a success. Their racking systems played a critical role in maximizing performance while meeting both structural and design requirements across rooftop and carport arrays.”**

**— Morgan Brawner, Chief Revenue Officer, ESA**

The result is a 3-megawatt solar installation, making it one of Florida's largest privately owned arrays. The system now generates enough clean energy to power roughly 550 homes per year. AdventHealth's corporate campus includes 7,500 solar panels installed across the rooftops of four buildings, two multistory garages, covered walkways, and parking canopies. The project required Terrasmart to develop an inventive parking solution and work directly with the parking garage engineer throughout the design process to enhance functionality and power businesses. To this end, Terrasmart produced three separate designs—two for canopies on parking garages and one for a surface lot. In addition to solar power, the project also added 62 electric vehicle charging ports and incorporated shaded parking for hundreds of surface parking spots for staff and visitors.



Photo credit: ESA

## Challenges

Terrasmart has a proven track record of success managing challenging terrain and topography, and the AdventHealth parking garages were no exception. The team approached this man-made “terrain” with the same careful design process. Considerations ranged from garage weight to the strength of the reinforcements in the garage to rebar scans for its concrete walls.



### Unusually Tall Building Heights

The AdventHealth parking garages are tall, multi-story structures, with strict garage attachment requirements from the garage engineer. Large cranes were needed to install materials at these heights, despite limited work area, and there were added challenges with attachment points (rods, pedestals, and anchors).



### Geographic Restrictions

Unlike wide-open fields where many solar projects are built, AdventHealth's campus is in a populated area with limited access points, narrow roads, and a laydown yard three-quarters of a mile away from the primary worksite. Terrasmart went the extra mile, technically three-fourths of a mile, to separate the materials storage site from the parking area to ensure that disruption to AdventHealth staff had an uninterrupted experience, in addition to adapting the project timeline for these workarounds.



### Extreme Weather

Not one but two hurricanes (Milton and Helene) impacted the construction schedule and flooded the laydown yard while wreaking havoc across the Southeast. Despite these challenges, the project was completed on a favorable revised schedule.

In addition to the site and weather challenges, an Inflation Reduction Act (IRA) apprenticeship requirement required quick adjustments to the crew and project plan. Since Terrasmart has extensive experience managing tight deadlines, the team was able to easily adjust to the changes and deliver the build while staying IRA-compliant.



Photo credit: ESA

## Solutions

Terrasmart's design and engineering team includes mechanical and civil engineers with direct solar experience who partnered with additional electrical, geotechnical, and structural engineers. These experts developed a unique canopy approach and completed the project with Terrasmart's versatile products, which are specifically designed to be adaptable to different applications. ESA and AdventHealth benefited from a completely custom solution and partnership throughout the project. Terrasmart's scope included:

- 1 System design
- 2 Engineering
- 3 Material installation
- 4 Project management, including accommodations for an active business campus and employee schedules
- 5 Structural work on an atypical site

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**This project was a meaningful collaboration from start to finish. Working with Terrasmart allowed us to deliver a dual-technology system that maximized space, performance, and reliability. Their team was responsive, thoughtful, and committed to quality, making them a great partner for a high-visibility project like this.”**

**— Morgan Brawner, Chief Revenue Officer, ESA**



Photo credit: ESA

## Results



### Reliable clean energy:

The 3 MW array delivers an estimated 4,200 MWh of electricity each year, meeting about one-third of the campus's power needs.



### Meaningful carbon cuts:

Annual generation offsets  $\approx$ 2,900 tons of CO<sub>2</sub>, advancing AdventHealth toward its 50 percent-by-2030 emissions goal.



### Long-term savings:

Producing energy on-site is projected to save \$4.6 million in utility costs over the life of the system.



### Enhanced campus experience:

Staff and visitors benefit from shaded parking, weather-protected walkways, and 62 Level-2 EV chargers.

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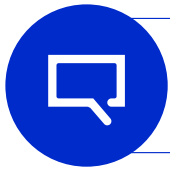
This project was a true three-way partnership, AdventHealth provided the vision, ESA delivered the full-scope development and integration, and Terrasmart's racking expertise helped us maximize both performance and aesthetics on a challenging site.”

— Morgan Brawner, Chief Revenue Officer, ESA

By combining ESA's turnkey development capabilities with Terrasmart's adaptable canopy solutions, AdventHealth now has a scalable blueprint for future on-site solar across its healthcare network.

This project is a great example of ESA's focus on delivering resilient, cost-effective solar and energy storage solutions for forward-thinking institutions. It demonstrates how on-site solar can support operational goals while advancing long-term environmental and economic impact.

By selecting Terrasmart, ESA gained a partner with a demonstrated ability to deliver a challenging build while adapting to extreme weather conditions and site constraints, and AdventHealth will reap daily benefits from on-campus solar. Now, the 3 MW array generates 4,200 MWh annually across 7,500+ solar panels that span rooftops, walkways, and parking garages, meeting one-third of the campus's electricity needs with renewable energy.



To reach our team and learn more, [click here.](#)

