

# Healthcare: Insights and Case Studies

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## About Mantis

At Mantis Innovation, unlocking efficiencies is our driving force. We specialize in energy efficiency, energy procurement, and facilities management solutions. Our tailored strategies help you optimize operations, minimize costs, streamline processes, and elevate performance.

Our expertise allows us to thoroughly assess your facility operations, identify areas for improvement, and craft long-term strategies for sustainable success. By enhancing energy management and implementing effective practices, we help you navigate budgetary risks and improve operational planning.

Together, we ensure your organization operates at its peak potential while setting new standards of excellence in your industry.

[mantisinnovation.com](https://mantisinnovation.com)

# Healthcare Overview

From complex re-roof projects over operational surgery centers to large-scale lighting retrofits that improve patient and staff well-being, we are acutely attuned to the challenges, needs, and goals within the healthcare industry. Which is why we work closely with administrators and facility staff to understand budget constraints, identify funding sources, and ensure the safety of the patients, guests and staff.

## Key Challenges

Healthcare facilities face several challenges in reducing energy use, implementing energy efficiency projects, extending the life of facility assets, and meeting sustainability targets. According to a report by the U.S. Department of Energy's Federal Energy Management Program (FEMP), some of the challenges include:

- Balancing energy efficiency with patient comfort and safety
- Executing on projects without disrupting operations
- Limited funding and resources for energy efficiency projects and asset replacements
- Lack of awareness and understanding of assets and energy spend across the portfolio
- Difficulty in measuring and verifying energy savings
- Resistance to change and lack of buy-in from stakeholders
- Shortage of a skilled workforce to effectively plan and execute projects

Despite these challenges, many healthcare facilities are making progress reducing their carbon footprint through effective, efficient sustainability measures. Some hospitals are implementing energy-efficient lighting, HVAC systems, and renewable energy sources. Others are finding opportunities within their building footprint, from preventive roof maintenance and leak response, to improving safety through pavement asset management.

What's more, in response to the growing challenge of reducing carbon emissions, the U.S. Department of Health and Human Services has called on the healthcare industry to reduce emissions by 50% by 2030 and achieve Net Zero by 2050. A lack of

bandwidth leaves many healthcare organizations struggling to not only benchmark, but put a cost effective, attainable sustainability roadmap in place.

## Critical Questions to Ask Your Teams:

- ▶ Do we have opportunities to improve energy efficiency and reduce operating costs?
- ▶ How do we transition from a 'run to fail' to a more proactive management of our facility assets?
- ▶ We've set decarbonization goals - how will we get there? Do we have the right team and skillset in place?





# Key Considerations for Your Facilities

## Energy Efficiency

### HVAC/Mechanical Improvements

Are you struggling to cost-effectively upgrade or replace HVAC equipment to achieve efficient and effective system operation and comfortable conditions? How can HVAC, water management, and electricity needs be streamlined to support more efficient and sustainable operations?

### LED Lighting

Have you updated all of your lighting to LED?

### Building Automation Systems

What problems are you running into while maintaining or serving your system? Are you leveraging your BAS to meet your sustainability goals?

### EV Charging

Do you have a full understanding of how EV charging stations will fit into the ecosystem of your facilities' parking lots and loading docks?

## Facility Asset Management

### Pavement Asset Management

Do you know what the current condition score is for your pavement building-by-building or in aggregate? Is there an opportunity to eliminate trip and fall hazards and improve aesthetics of your parking lots and access roads?

### Roof Asset Management

How are you managing your roofs now? How do you know when to tackle the next roofing project? How do you ensure operations are unaffected by leaks, while creating a comfortable environment for patients, guests, and staff? Going one step further, how do you accomplish this withing budget?

### Building Envelope

Are your goals to stop recurring water infiltration or improve thermal performance to reduce energy costs? Are you happy with the way your building envelope looks?

## Energy Procurement

### Green Energy Procurement

Are you facing stakeholder pressures to embrace renewable energy?

### Energy Choice

If some or all of your portfolio is in a deregulated state, do you have favorable pricing and contract terms and conditions? Are you working with reputable suppliers or a broker that works as an extension of your team to secure the best rates, sync contract timelines?

## Sustainability

### Policy Governance

Regulations, including from the SEC, are driving increased transparency and measurement of environmental performance – do you have a plan in place?

### Local Regulatory Compliance

Is your benchmarking data accurate?

### Facility Portfolio Decarbonization

Has your organization set targets to reduce emissions? Has that conversation included facilities operations in a meaningful way?

### Smart & Connected Buildings

Do you effectively manage energy use and monitor our various energy loads to maximize control over these systems? Do you have an energy management system? If so, is the implementation aligning to your timeline?

### Renewable Energy and Carbon Offsets

Is your team prepared to manage the price risk of off-site energy purchasing to meet ESG targets?

### Corporate and Project Financing

Are you interested in funding programs designed to unlock internal and external funding sources?



## Sustainability Road Mapping

Have your internal teams, both corporate and operations, aligned on a cost-effective path to reducing carbon emissions and managing climate risk across your portfolio?

## Utility Bill Management

Are you still managing some or all of our commodity invoices manually? Are you seeing and managing your bills in aggregate to identify anomalies, benchmark your buildings and improve sustainability reporting?

That's a lot of questions, which is why we operate as a true extension of your team to help you not only answer them, but put the right projects in motion. As a company, we are agnostic as far as technology, suppliers, and products so your best interests are our sole motivator. We'll advise you on the options available to you, and support you in the path you choose. Let's take a look at how we've already done this for your peers.

## Across 1B+ sq ft, Mantis delivers 20-30% savings on critical facility spend while reducing carbon emissions

**>100,000 MT  
CO<sub>2</sub>e**

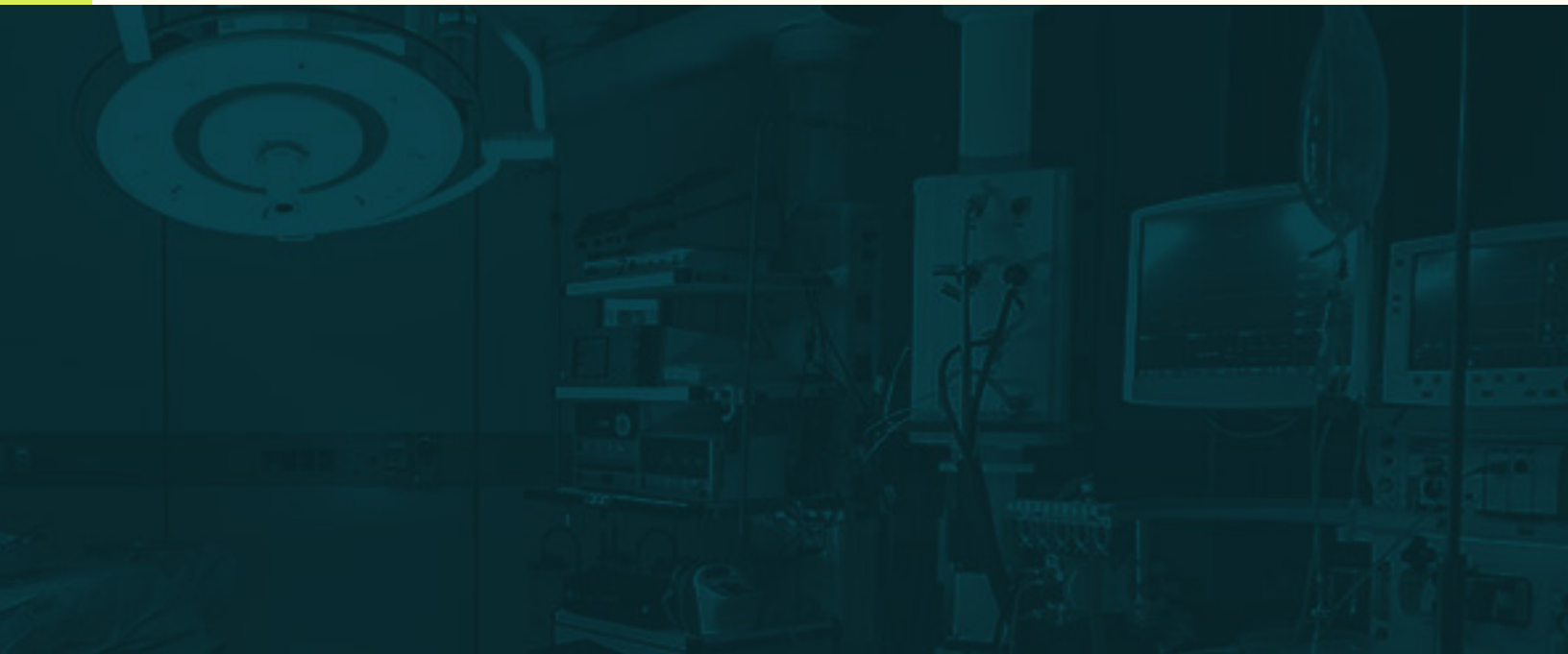
ANNUAL NEW GHG  
REDUCTIONS

**10-30%**

AVG ENERGY SAVINGS FROM  
COST-EFFECTIVE EFFICIENCY  
RETROFITS

**300+ MW**

INSTALLED SOLAR



## University of Texas Medical Branch (UTMB)

The University of Texas Medical Branch (UTMB) opened in 1891 as the nation's first public medical school and hospital under unified leadership. What was originally a single hospital and medical school building in Galveston is now a major academic health sciences center; research center, and a growing health system with hospitals on four campuses and a network of clinics.

UTMB engaged with Mantis in 2020 to provide roof assessments at 75 buildings across four campuses within the state including:

**The Angleton-Danbury Campus | Clear Lake | Galveston | League City**

Using our assessment data, we have helped UTMB stabilize their midlife roofs and prioritize larger repair projects across the portfolio.

This has significantly reduced occurrences of leaks and helped the client save on emergency repair costs. When possible, we have identified restoration project instead of more costly roof replacements and have worked to foster a more strategic, long-term roof management plan for UTMB.

### The Angleton Surgery Center

In late 2020, Mantis designed a complex, strategic rehabilitation of the roof of this operational surgery center. The design featured a low odor, low VOC, reinforced coating that will keep the existing roof intact for up to 20 years, mitigating the need for disruptive reconstruction activities on short notice.

To keep patients safe, our team developed a negative air zone to create a barrier for particulates as the project unfolded.

The end result was the extension of roof life, without eviscerating the client's budget nor endangering its operations, reputation, or civic standing.



PROJECT DURATION

**Nov 2020 - Jan 2021**

PROJECT SIZE

**70,000 sq ft**

CONSTRUCTION COST

**\$800,000**

## Trinity Health New England

Trinity Health Of New England is an integrated health care delivery system comprised of providers and facilities dedicated to the full spectrum of preventive, acute, and post-acute care. Their portfolio spans New England and includes hospitals, walk-in clinics, medical offices, specialized facilities, affiliated institutions, and foundations serving a population of nearly 3 million people.

Trinity Health required efficiency upgrades in three hospitals to modernize them for occupant comfort and reduce energy use.

### **Saint Francis Hospital | Mount Sinai Hospital | Johnson Memorial Medical Center**

They tapped Mantis to design the projects, source and secure any available rebates or incentives from their utilities, and deliver successful outcomes on a holistic approach to improving efficiency.

Our Efficiency team identified upgrading building automation systems as a quick win and a way to set up the remaining work for success. This including setting specific setback and scheduling strategies and adding occupancy controls to keep lights off in unoccupied spaces and turn them on when necessary.

Substantial incentives greatly reduced project costs. The scope across these three facilities included:

Configured Honeywell, Alerton, and Johnson systems into one

- LED lighting upgrades
- AHU refurbishment
- Boiler replacement

### **St. Francis Hospital**

For this location, Mantis Design and implemented an air handler refurbishment and boiler replacement.

The existing boiler needed to be replaced by a substantial unit and was located in the heart of the building. Our Efficiency experts planned a complex install of the new equipment that required navigated tight corridors and avoiding other equipment that was keeping the facility operational.

The project was completed without incident and has modernized the hospital's operations.



## Mantis & Healthcare

A data-driven, comprehensive approach to facilities management, energy efficiency, and sustainability is prudent for healthcare organizations looking to mitigate risk, improve operational efficiencies, and align with larger corporate responsibility goals and stakeholder expectations.

### Energy Efficiency Projects

Identifying and implementing equipment and building management practices, which can result in up to 50% less energy use.

### Facility Asset Management

Streamlining programs across your portfolio of facilities to perform the right work, at the right time to maximize asset life and minimize total cost of ownership.

### On-Site Renewables

Consider solar, wind, energy storage, and distributed generation.

### Leverage the Grid

Reduce emissions by taking advantage of peak shaving, load shifting, and demand management.

### Off-Site Renewables

PPAs, green power procurement, community solar, utility scale solar or wind projects, and more.

### RECs and/or Carbon Offsets

Procure high-impact measures like these now while planning for long-term efficiency success.

At Mantis, we believe a holistic approach is the most effective path forward. Expect a real partner, working alongside your teams to deliver real results:

#### 1 Cost Savings

We uncover opportunities to extend asset life and reduce energy use and operating costs.

#### 3 Operational Clarity

With a holistic approach, we see opportunities that others don't, allowing you to tackle more than an ad-hoc project.

#### 2 Financial Planning

We leverage your facility data to optimize budgets over the long-term, prioritizing repair, rehabilitation, replacement, and upgrades that bring budget certainty.

#### 4 Future-Proof

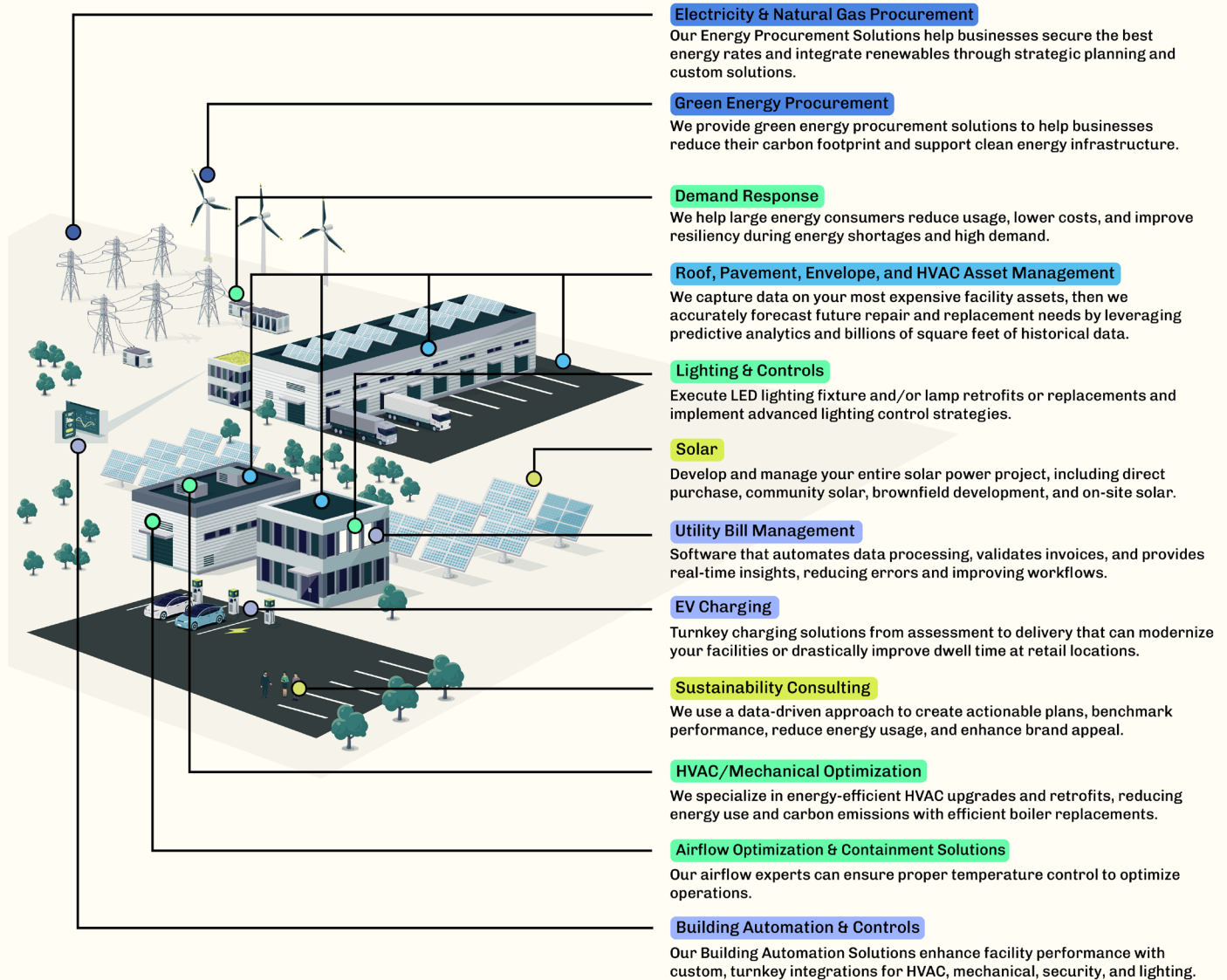
We keep you one step ahead of the rapidly evolving landscape of built environment regulations, from local and state level compliance to proposed SEC climate risk reporting.



# Solutions that matter across your resources and assets, inside your building and out.

Complete facility expertise matters which is why we take a holistic, comprehensive approach to sustainability, energy, and facility asset management. Our team will:

- Find the most cost-effective path to reducing carbon emissions and risk across your portfolio
- Create an implementation plan that makes the most of available budgets.
- Ensure successful project delivery as your unique plan becomes a reality.



## Your partner for facility excellence

Our team is ready to help improve your facility performance while lowering operating costs and reducing energy use.

> [Contact a Mantis Innovation expert today to start the conversation.](#)





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## Stay Connected

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