

Energy Management at George R. Brown Convention Center

TD INDUSTRIES SERVICE TEAM OPTIMIZES OPERATIONS OF BUSY CONVENTION CENTER IN DOWNTOWN HOUSTON



Project Overview

A TDIndustries (TD) service team of seven technicians operates the George R. Brown Convention Center, a 1.8 million square foot LEED Silver Certified facility located in downtown Houston.

The event-driven convention center ranges in daily usage from 500 square feet to 1.8 million square feet. Energy load considerations include variations in foot traffic, exhibit exchanges, trade show setup and construction projects, as well as Houston's dramatic changes in weather and temperatures.

Through its strategic partnership with utiliVisor, an energy maintenance software platform, TD implemented Smart Analytics to gain cost and labor efficiencies and extend the life and performance of main plant equipment.

Challenges & Opportunities

CHALLENGE Optimizing efficiency of a massive, event-centered convention center in extreme Houston weather

Priorities include:

- Provide resources to ensure load requirements are met while saving energy through the facility's operations center.
- Reduce the cost of chilled water production by maximizing the effective dispatch and use of the plant's assets.
- Offer insight into the effectiveness of the Building Automation System (BAS) and make recommendations on how to improve sequences.
- Catch any maintenance issues, prevent system drift before it affects energy usage, utility bills or comfort.
- Track and validate efficiency improvements through the utiliVisor platform.
- Optimize facility teams' workflow to ensure time is being spent on the most critical areas of maintenance and repair.

Opportunity: TD's service team, with assistance from utiliVisor, built the customized monitoring system that displays all data from the plant in real time. In the first two months of implementation, the TD team began making optimization recommendations to the on-site operators.

Proven Results



10%
decrease in
energy usage



\$379,284
in energy savings
from 2018 to
mid 2021



\$188,669
energy savings
for 2020



Solutions

The TD team provides the following services and solutions to the convention center on-site team:

- Central plant system and HVAC service and upkeep
- Indoor air quality, safety and circulation adjustments amid COVID-19 event protocols
- Plumbing service, water usage monitoring and efficiency tracking
- Electrician services including load, safety, fire prevention issues and energy usage monitoring
- Emergency weather preparation (hurricanes, extreme heat and cold, flooding precautions)
- General maintenance including doors, painting and patching walls

Energy use tracking

As the TD team began to gather valuable insights into equipment performance and system fault detection and usage trends, changes were implemented resulting in direct operational benefits.

Operational efficiency

Through TD's implementation of the utiliVisor energy management platform, on-site operators are more effective and understand the broader impact their actions have on the overall efficiency of their critical systems.

The TDIndustries Difference

- ✓ Installing meters, monitoring and reporting for multiple energy sources
- ✓ Understand and control energy usage with predictive Smart Analytics platform
- ✓ Dedicated team of TD Partners who take ownership of results
- ✓ System troubleshooting to quickly identify and solve issues
- ✓ Continuous quality service and access to specialty knowledge

Results

- **10% decrease in energy usage**
- **\$188,669 energy savings for 2020**
- **\$379,284 in energy savings from 2018 to mid 2021**

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Our TD team's expertise in the latest smart building software solutions has helped our customers at this facility save more than \$379,000 in just over two years on energy expenses. We're proud of our consistent results in optimizing their equipment performance and longevity and appreciate that our ability to monitor air quality and occupant safety has been key to the convention center's essential operations amid a pandemic.

— TJ Shiflet, Director of Facilities Operations at TD

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