HOW MIT'S FACILITIES TEAM BUILT A CAMPUS-WIDE ANALYTICS STRATEGY THAT SAVES $1M ANNUALLY

PROJECT AT A GLANCE

Turning data into decarbonization, MIT is showing what's possible when you turn building data into action. With millions of square feet, thousands of assets, and nonstop research activity, their facilities team needed a clearer view of how everything was performing. By using fault detection and diagnostics at scale, they built a smarter, more proactive approach to operations—cutting energy use, proving results, and moving closer to their decarbonization goals.

9,700
EQUIPMENT MONITORED

20,000,000
DATA POINTS ANALYZED PER DAY

90
BUILDINGS

10,200,000
SQUARE FEET

CHALLENGE *Turning Endless Data Into Actionable Insight*

Managing 10.2 million square feet of diverse facilities—from dorms to research labs—MIT needed real-time visibility into system performance. Traditional alarms couldn't scale or prioritize issues effectively, leaving inefficiencies hidden and maintenance reactive.

SOLUTION *Building a Smarter, Connected Operations Model*

MIT's facilities team reimagined how a campus can operate by turning building data into daily action. With Clockworks Analytics, they created an integrated system that connects maintenance, energy, and sustainability goals under one roof.

Instead of reacting to alarms, the team now predicts issues before they occur, verifies savings in real time, and keeps every system performing at peak efficiency. By embedding analytics into everyday workflows and utility partnerships, MIT built a proactive model that's scalable, measurable, and proven to deliver value across the entire campus.

- **Proactive maintenance:** Detects issues before failures occur.
- **Data-driven energy insights:** Quantifies performance gaps and savings potential.
- **Continuous commissioning:** Ensures systems stay optimized long-term.
- **Utility integration:** Verified savings through Eversource incentive programs.

RESULTS *Proven Savings, Persistent Performance*

The impact goes far beyond energy savings. MIT's analytics-driven facilities management approach delivers:

- **$1M+** in verified annual energy savings
- 2.1M kWh and 950K **therms reduction validated** for utility rebates
- **Fastest payback** of any carbon-reduction initiative on campus
- **Continuous verification** ensures efficiency gains persist year after year

Beyond energy savings, MIT gained measurable operational confidence, aligning maintenance teams, sustainability goals, and financial accountability across the entire campus.

IMPACT *From Energy Savings to Institutional Transformation*

MIT's success illustrates how large institutions can make measurable progress toward decarbonization without costly overhauls simply by optimizing the systems they already have. Fault detection and diagnostics proved to be the most cost-effective path to carbon reduction, helping the university achieve sustainability goals faster and with less capital investment.

The approach also strengthened collaboration across teams, aligning facilities, sustainability, and finance around a single source of truth for performance data. For peer institutions, MIT's model shows that the journey to carbon neutrality doesn't start with new infrastructure—it starts with smarter, data-informed operations that unlock lasting impact.

Project Type	*kWh*	*Therms*	*MMBtu*	*GHG ($MTCO_2e$)*	*Simple Net Payback*
MBCx	***2,103,080***	***951,527***	***102,329***	***8,599***	***0.5***
Lighting	10,620,747	-	36,239	3,292	3.1
Mechanical	2,982,255	1,473	10,323	935	5.6
Lighting	1,645,840	-	5,616	510	.7
Mechanical	9.176	266,761	26,707	1,475	.8
Mechanical	3,861,074	184,077	31,582	2,505	
MOU Totals	***21,592,814***	***1,403,838***	***212,797***	***17,316***	***1.6***

Graphic highlights the cost-effectiveness of FDD-driven monitoring based commissioning (MBCx) measures to achieve energy and carbon reduction.

ABOUT CLOCKWORKS ANALYTICS

Clockworks Analytics is a leading fault detection and diagnostics (FDD) solution that transforms operational data into actionable insights. Our platform uses advanced data modeling to automatically detect BAS faults, diagnose root causes, and prioritize issues, enabling facility managers, engineers, and service providers to optimize performance, reduce costs, and focus resources where they matter most.