Lawrence Berkeley National Laboratory has partnered with commercial building owners across the country to gather data on the costs and benefits of Energy Management and Information Systems (EMIS). EMIS are the technologies behind automated, data-driven energy management that help identify, diagnose, and implement building system improvements. Through this partnership, Berkeley Lab has assembled the largest dataset to date on building analytics costs and benefits, proving the business case for their use at scale.

How EMIS work:

Data Warehouse: Integrates and organizes building data

Data Analytics: Transmits actionable information to building engineer

Implementation: Building engineer reviews analytics and makes repairs or improvements

Monitoring: Tracks improvements and measures savings

EMIS TOOLS: Energy information systems (EIS) help find energy waste using smart meter data. Fault detection and diagnostic tools (FDD) detect and prioritize HVAC system faults. Automated system optimization (ASO) includes control algorithms to minimize energy use across systems.

Largest Dataset Documents the Costs and Benefits of EMIS

104 ORGANIZATIONS
6,500 BUILDINGS
567 MILLION SQUARE FEET

EMIS SOFTWARE REPRESENTING 40 DIFFERENT EMIS VENDORS HAVE BEEN INSTALLED

ENERGY SAVINGS FOR ORGANIZATIONS WITH EMIS:

EIS 3% $95 million
FDD 9% $3 million

PROJECTED ANNUAL SAVINGS for all organizations

ANNUAL SAVINGS for the median portfolio (15 million sq ft)

FIRST-YEAR INSTALLATION AND SOFTWARE COSTS:

EIS $0.02/sq ft
FDD $0.08/sq ft

INVESTMENT PAYBACK:

2 years