MHT Technologies

GUIDE OF GREEN PRODUCTS AND LEED CERTIFICATION

www.mht-technologies.com

Table of Contents

51 West 52nd (BlackRock)

About Us

MHT Technologies is a New York based software development and lighting services company.

For more than 10 years, MHT has been a leading provider of world-class line voltage products to our valuable clients throughout North and Central America. Since 2015, MHT has been supplying fixtures for numerous PoE projects in the United States.

In 2018 we introduced our PoE platform, inspextor, which features AI advanced learning capabilities, an intuitive GUI (graphic user interface) and offers the highest encryption security available.

MHT has been granted three (3) U.S. Patents on our inspeXtor® PoE lighting system, which sets it apart in the PoE industry.

MHT's 55,000 sq/ft facility, located in New York, has received ETL, UL and ISO 9001:2015 listings and certifications.

Our staff of engineers, software developers and lighting designers provide MHT's clients with the experience necessary to take their lighting project from the drawing board to implementation.

What is PoE?

PoE stands for Power-over-Ethernet. It describes the ability to use one cable to provide power and controls to connected devices. Using a quality Power Source Equipment (PSE), PoE technology can deliver up to 90 watts of power to end devices for each port on the PSE.

Port Meirion - 41 Madison

88 Regent

MHT's Staten Island Training Lab

Oceangate
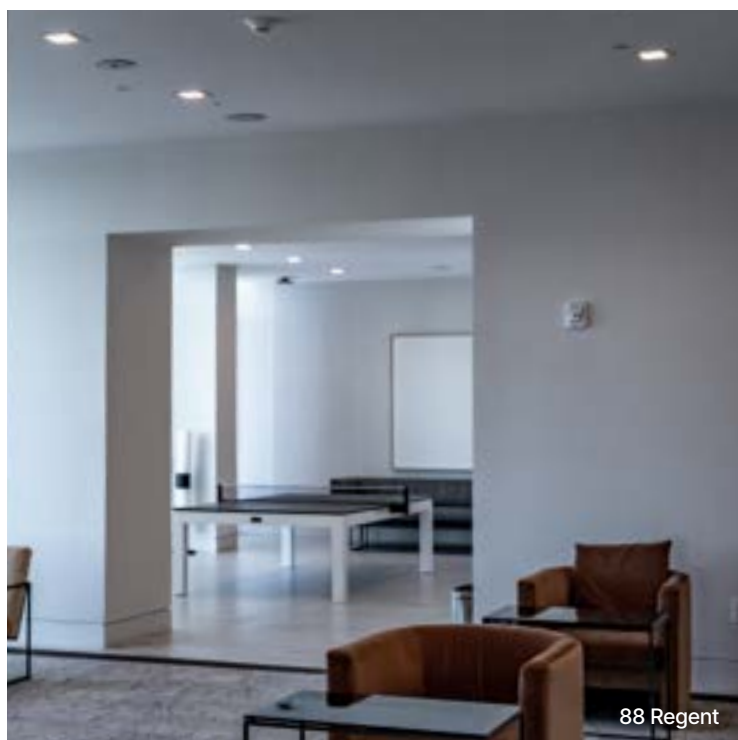
Features and Benefits of a PoE Lighting System

Clients that choose a PoE smart building sofware solution will recognize significant benefits over a standard line voltage installation. Those benefits include:

Reduced Installation Costs

In most cases, new construction builders will see a 25-30% reduction in installation costs. The majority of these savings come from the lower cost and quicker installation of low voltage category cable when compared to traditional copper wiring.

Safer and Easier to Install

PoE systems use low voltage category cable, significantly reducing the chance of injury due to electric shock. The installation is also far less physically taxing on the installers given the ease of running category cable versus non-metallic shield or conduit.

Data-Gathering

PoE systems that have strong software platforms can provide substantial information to business owners regarding their facilities. This includes better understanding space utilization and the measurement and verification of energy consumption in their building.

Increased Comfort and Productivity

Whether you are a building owner, residential property developer, school system, improving the quality of life of your occupants is generally a priority. A PoE system offers many features such as personalized lighting settings, automatic shade controls as well as sensors with people counting capabilities and keycard access control.

Integration

A major advantage to using a PoE system is the ability to connect and communicate with other building systems. For example, shades in an office or apartment can open and close based on specific policies, combined with daylight harvesting sensors, improve the wellbeing of the occupant. In addition, camera and security systems can also be connected to a PoE system, allowing for increased responsiveness from other building systems

Security

PoE systems reside on an intranet wired infrastructure. This allows for building managers to ensure the highest security for their PoE building management systems.

A Revolutionary Power over Ethernet (PoE) System.

Inspextor, MHT Technologies' PoE-based smart building software solution, is an advanced platform that is used to enhance smart building operations and efficiency.

Our software can power and/or control virtually any LED lighting fixture, sensor or low voltage connected device. Building owners, facility managers and staff can leverage Inspextor's detailed reporting capabilities and customizable controls to create unique environments in their spaces.

In addition to the energy savings and advanced functionality, Inspextor is competitively priced and easier to maintain when compared to traditional line voltage lighting and controls.

Using Inspextor, you can expect a reliable and secure system that will allow you to communicate with other BMS platforms, sensors, applications, and technologies for centralized control of your smart building.

88 Regent

The Lofts at Pier Village

Integrate Smart Sensors for Automation

- Detects occupancy
- Daylight harvesting
- Auto diming control
- Monitor air quality and environmental metrics

Real-Time Monitoring and AI Capabilities

- View all metrics in one easy to read dash-board in real-time
- Advanced AI automates the platform based on environmental patterns

Maximize Energy Savings

- Data-driven insights
- Sustainability dashboard with AI-enabled suggestions for energy savings
- 5-29% energy savings
- Monitors Energy Consumption

51 West 52nd (BlackRock)

Port Meirion - 41 Madison

Secure, Reliable and Flexible

- A Software Defined Network (SDN) created on a wired infrastructure provides far greater security than wireless.
- Realtime security alerts that tie into your security systems
- Patented low voltage battery back-up for emergency situations
- Cloud-based management allows for remote monitoring and control

The Innovation of MHT Technologies

- Leading manufacturer of energy efficient products in the USA for over 10 years. ISO 9001:2015 Certified lighting manufacturer
- Creator of innovative patented energy efficient technology.
- A world-class team of professionals, products, processes, and partners.

40%

of total CO2 emissions are a result of the building sector*

70%

of all electricity is consumed by buildings**

What makes a Green Building?

Building owners that integrate sustainability goals into their building design and operational process tend to operate more efficient and cost-effective green buildings. Owners will consider a number of factors when deciding on how best to achieve these goals such as site selection, types of materials used, equipment efficiencies and overall energy consumption.

Many building projects are evaluated on their sustainability efforts according to green building certifications. Some of the leading evaluation systems in the world are BREEAM (Building Research Establishment Environmental Assessment Method) developed in the UK in 1990 and LEED (Leadership in Energy and Environmental Design) developed in the United States. These accreditations are based on a point system framework and buildings are certified at different levels according to points achieved.

LEED is one of the leading green building rating systems in the world, developed by the US Green Building Council (USGBC). In the LEED Certification system, buildings are evaluated on a 100 point scale and certified as LEED, LEED Silver, LEED Gold and LEED Platinum.

40-49 Points	50-59 Points	60-79 Points	80-100 Points
certified	silver	gold	platinum

Integrated Process	**1**/100
Location and Transportation	**16**/100
Sustainable Sites	**10**/100
Water Efficiency	**11**/100
Energy and Atmosphere	**33**/100
Materials and Resources	**13**/100
Indoor Environmental	**16**/100
Quality Innovation	**6**/100
Regional Priority	**4**/100

MHT's Contribution to LEED Certification

LEED v4 for BD+C: New Construction and Major Renevation

Integrative Process
Available Points : 1 Point
MHT's contribution : 1 Point

To support high-performance, cost-effective project outcomes through an early analysis of the interrelationships among systems.

Energy consumption and initial cost can be reduced by using MHT's products, such as Inspextor. Additionally, occupant comfort and control requirements can be satisfied.

Sustainable Sites
Available Points : 10 Points

Controllability of Systems: Lighting
MHT's contribution : 1 Point

To achieve this point, the system must allow individual lighting controls for 90% of the buildings occupants to allow them to adjust and set to individual preferences. The Inspextor system provides role-based user control via in room tablets or an App on a smartphone for individuals to make any adjustments to their lighting. In addition, advanced keycard readers and policies will further enable customization based on the particular occupant in a building or room.

Energy and Atmosphere
Available Points : 33 Points

Fundamental commissioning and verification
MHT's contribution: Prerequisite

To support the design, construction, and eventual operation of a project that meets the owner's project requirements for energy, water, indoor environmental quality, and durability.

MHT's experienced team helps the Commissioning Authority (CxA) to manage commissioning activities including verification of installation and performance of PoE using the controls features of the Inspextor system.

Minimum Energy Performance
MHT's contribution : Prerequisite

To reduce the environmental and economic harms of excessive energy use by achieving a minimum level of energy efficiency for the building and its systems.

MHT Lighting's LED products are an energy efficient choice for high efficacy, long life, and high-quality color rendering. Additionally, energy-savings can be achieved by using MHT's PoE Inspextor system with the functionality of its occupant and daylight sensors.

MHT's contribution to the mandatory requirements of ASHRAE Standard 90.1-2010:

- Automatic shut-off: Occupancy sensors
- Space control: Dimming, swithing
- Exterior ligting control: Astronomical timeclocks
- Automatic daylight control: Daylight sensors
- Energy monitoring: PoE inpeXtor system

Building-Level Energy Metering
MHT's contribution : Prerequisite

To support energy management and identify opportunities for additional energy savings by tracking building-level energy use.

Building energy consumption can be measured by using Inspextor, MHT Technologies' PoE Based smart building platform dashboard, that will provide you a snapshot of energy usage across your facility.

Enhanced Commissioning – Option 2
MHT's contribution : 1 Points

Inspextor provides enhanced system monitoring and control. Through the commissioning process, MHT will be able to integrate with other building systems and provide a single dashboard to monitor consumption and energy savings.

Optimize Energy Performance
MHT's contribution : 18 Points

To achieve increasing levels of energy performance beyond the prerequisite standard to reduce environmental and economic harms associated with excessive energy use.

Using MHT Technologies' products and controls can not only help reduce lighting consumption, but also HVAC consumption related to lighting loads.

Advanced Energy Metering
MHT's contribution : 1 Point

To support energy management and identify opportunities for additional energy savings by tracking building level and system level energy use. Use Inspextor to monitor energy usage down to the fixture level, gather real-time data on energy consumption, integrate with BMS systems for a comprehensive view of energy consumption, and more to help identify opportunities for energy savings.

Demand Response
MHT's contribution : 2 Points

To increase participation in demand response technologies and programs that make energy generation and distribution systems more efficient, increase grid reliability, and reduce greenhouse gas emissions.

MHT Technologies PoE Inspextor solution can automatically shed lighting loads during a demand response event and automatically return after the demand response event.

Indoor Environmental Quality
Available Points : 16 Points

Interior Lighting
MHT's contribution : 2 Points

To promote occupants' productivity, comfort, and well-being by providing high-quality lighting.

All MHT Lighting products including LED products, occupancy/daylight sensors, and PoE Inspextor system contribute to the lighting control option.

MHT's LED products have CRI of 80 or higher, 24,000 hours rated life, and less than 2,500 cd/sqm between 45 and 90 degrees from nadir which meet light quality requirements of LEED.

Daylight
MHT's contribution : 3 Points

To connect building occupants with the outdoors, reinforce circadian rhythms, and reduce the use of electrical lighting by introducing daylight into the space.

Inspextor offers a number of options to achieve this objective. Our selection of circadian lighting products, advanced daylight harvesting controls and integration with shade controllers, provide maximum user comfort.

Innovation

Available Points : 6 Points
MHT's contribution : 2 Points

Inspextor can contribute to LEED points in the Innovation category, specifically in the area of "Innovation in Design"(ID). The ID credit category is intended to encourage and recognize innovative and sustainable design strategies that go beyond the standard LEED requirements. Use Inspextor for optimizing energy performance, supporting renewable energy production and improving indoor lighting quality. LED fixtures satisfy the per lumen hour requirement.

LEED Accredited Professional

MHT's contribution : 1 Point

At least one principal participant of the project team must be a LEED Accredited Professional (AP) with a specialty appropriate for the project.

Regional Priority: Specific Credit

Available Points : 4 Points
MHT's contribution : 2 Points

To provide an incentive for the achievement of credits that address geographically specific environmental, social equity, and public health priorities.

MHT Technologies can contribute to regional credits. Note these are location specific and will vary depending on the location.

Port Meirion - 41 Madison
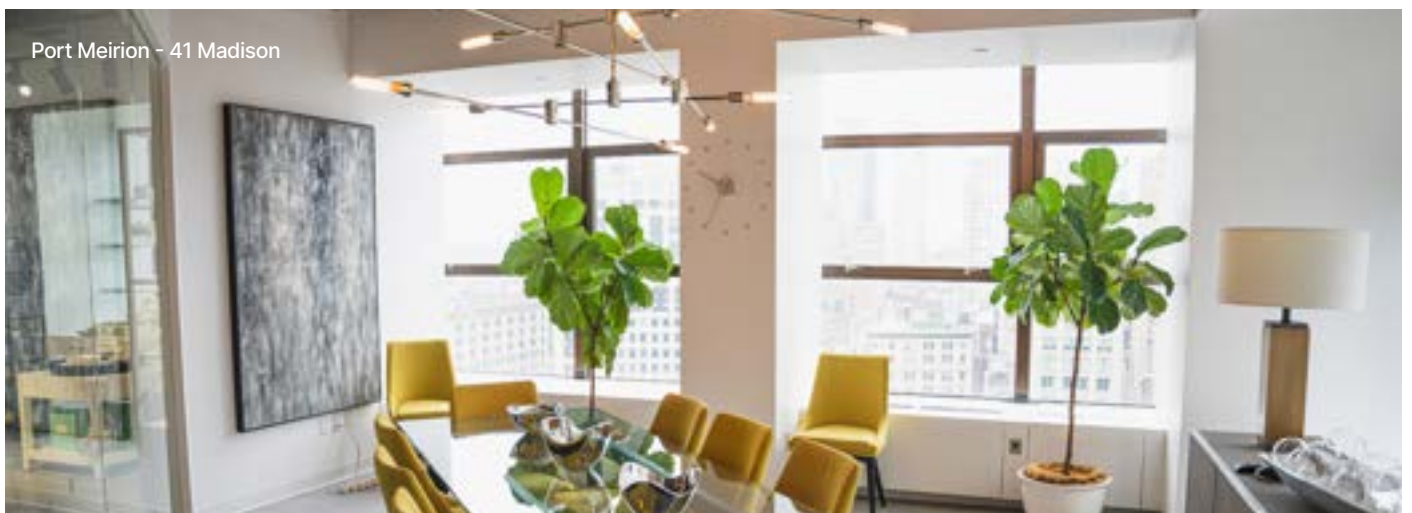
MHT's Contribution Summary

Integrative Process

Integrative Process	1 Point	**1 Point**

Sustainable Sites

Controllability of Systems – Lighting	1 point	**1 Point**

Energy and Atmosphere

Fundamental Commissioning and Verification	Prerequisite	
Minimum Energy Performance	Prerequisite	
Building-level energy metering	Prerequisite	
Enhanced Commissioning Option 2	2 points	**23 Points**
Optimize energy performance	18 points	
Advanced energy metering	1 point	
Demand response	2 points	

Indoor Environmental Quality

Interior Lighting	2 Points	**5 Points**
Daylight	3 Points	

Innovation

Innovation	2 points	**3 Points**
LEED Accredited Professional	1 point	

Regional Priority

Regional Priority	2 points	**2 Points**

*Inspextor and MHT Lighting LED fixtures contribute up to 35 points of totally 100 potential points of LEED Credits.

MHT Technologies' Inspextor software solution may contribute **up to 35 total points** towards LEED Certification.

Grant Money and Rebates

- Federal Rebates of up to $1.80 per square foot*

- State incentives - Depending on the state, building owners could enjoy up to 10 years of property tax exclusion*

MHT Technologies

MHT Technologies U.S. Headquarters

241 W 37th Street, #1202
New York, NY 10018
E-mail: sales@mht-technologies.com

MHT Technologies U.S. Warehouse

1961 Richmond Terrace,
Staten Island,
NY 10302, USA

Tel: 718 524 4370
Fax: 718 524 4390

www.mht-technologies.com