



Mouser Electronics

Project Details

Mouser Electronics expanded its Dallas-Fort Worth distribution center with a 416,000-square-foot warehouse addition designed to support growing global demand and advanced automated fulfillment operations. Seeking improved sustainability, centralized lighting control, and operational flexibility, Mouser implemented a large-scale Power over Ethernet (PoE) lighting infrastructure supported by fault-managed DC power distribution technology.

The project incorporated more than a thousand PoE lighting fixtures, centralized intelligent controls, occupancy-based automation, and distributed low-voltage infrastructure designed to improve efficiency, reduce material usage, and simplify long-term facility management.



Project Name: Mouser Electronics Distribution Center Expansion

Vertical: Warehouse / Distribution Center

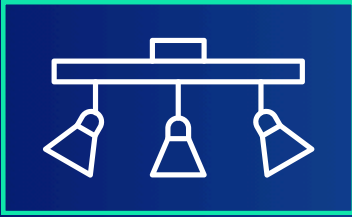
Date of Completion: 2024

Location: Dallas-Fort Worth, Texas

Primary Use Case: Warehouse & Distribution Operations

Project Size: Approximately 416,000 Sq Ft Expansion

Project Needs



Reduce operational and energy costs



Improve lighting flexibility and centralized control



Support sustainability initiatives and carbon reduction goals

Solution

Mouser deployed a large-scale PoE lighting system supported by fault-managed DC power distribution infrastructure. The solution included high-bay PoE lighting fixtures, occupancy sensors, centralized lighting management, distributed AGILE-CORE™ infrastructure, Inspextor PoE nodes from MHT Technologies, and hybrid copper-fiber cabling for converged power and data delivery.

The system provides granular lighting control, simplified deployment, reduced maintenance requirements, and enhanced energy efficiency throughout the warehouse environment.

Process

Mouser collaborated with multiple technology and infrastructure partners to design and deploy the integrated PoE lighting platform. Baird, Hampton and Brown (BHB) provided engineering support, Sinclair Digital designed the AGILE-CORE infrastructure, Trico Electric completed electrical installation, and Polarity Networks deployed network technologies and connectivity throughout the facility.

The project combined distributed fault-managed power infrastructure with intelligent lighting controls to create a scalable, centralized low-voltage environment aligned with Mouser's operational and sustainability objectives.

**Project
Proposal**

**Need
Assessment**

**Installation/
Completion**



Overview:

Mouser Electronics sought to modernize its expanding distribution center with an intelligent lighting infrastructure capable of supporting high-efficiency warehouse operations while reducing environmental impact. The organization selected PoE lighting technology because of its ability to simplify deployment, centralize control, reduce maintenance, and improve long-term flexibility.

MHT Technologies contributed Inspextor PoE nodes to support network control and lighting integration throughout the facility. Combined with centralized software-defined management and fault-managed power infrastructure, the deployment created a scalable low-voltage platform optimized for warehouse operations and future adaptability.

Scope of Work:

The Mouser deployment included more than 1,000 PoE lighting fixtures installed throughout the warehouse, mezzanine spaces, offices, and restrooms. The lighting network incorporated approximately 1,678 Inspextor PoE nodes supporting LED fixtures, occupancy sensors, and wall switches across the facility.

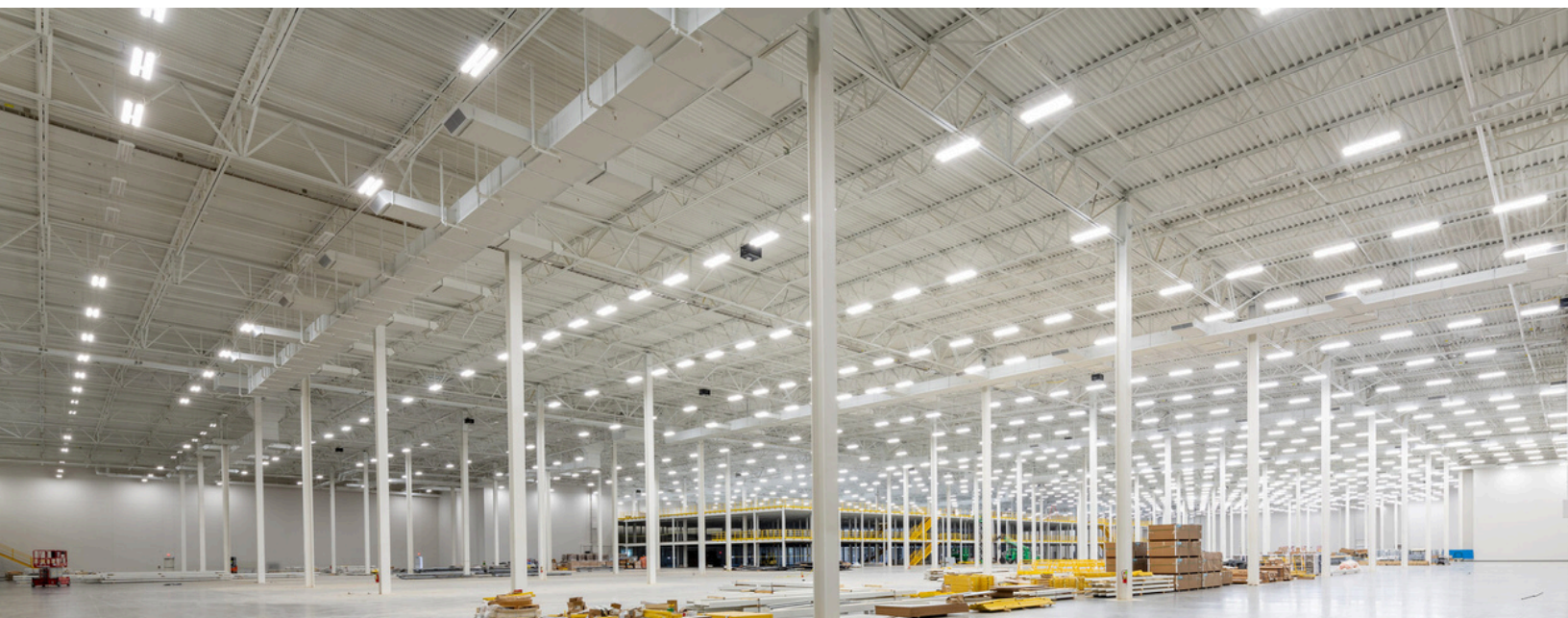
The AGILE-CORE distributed infrastructure architecture utilized hybrid copper-fiber cabling and distributed BITS enclosures, each supporting approximately 10,000 square feet of warehouse space. Each enclosure delivered high-voltage DC power and network connectivity to PoE switches capable of providing up to 90W IEEE 802.3bt PoE per port.

The deployment also integrated centralized control software, occupancy-based automation, load-shedding capabilities, and scalable low-voltage infrastructure designed to support future operational growth and warehouse reconfiguration.

Project Inception:

Mouser's warehouse expansion created an opportunity to implement an intelligent infrastructure platform aligned with long-term operational efficiency and sustainability goals. The organization selected PoE lighting and fault-managed power technologies to reduce infrastructure complexity while improving lighting control, adaptability, and energy performance.

- **Energy Efficiency:** PoE lighting and DC power distribution reduce energy losses associated with traditional AC-to-DC conversion while enabling occupancy-based automation and centralized energy management.
- **Reduced Material Usage:** The low-voltage Ethernet-based architecture eliminated conduit requirements and significantly reduced copper and steel usage throughout the facility.
- **Centralized Control:** Software-defined lighting management enables granular fixture control, load shedding, customized lighting scenes, and visibility into energy consumption across the warehouse.
- **Simplified Reconfiguration:** PoE infrastructure allows lighting fixtures and controls to be easily moved or reconfigured without requiring extensive electrical modifications.
- **Scalability:** The distributed AGILE-CORE architecture establishes a flexible foundation capable of supporting future technology upgrades and additional intelligent building integrations.



Smart Control and Integration:


The Mouser deployment leverages Inspextor PoE nodes from MHT Technologies to provide intelligent lighting control and interface connectivity throughout the warehouse.

The integrated low-voltage platform supports centralized management while enabling flexible operational adjustments across multiple warehouse zones.

- **Centralized Lighting Control:** Software-defined controls allow operators to manage lighting levels, scheduling, occupancy automation, and customized lighting scenes from a centralized platform.
- **Occupancy-Based Automation:** Integrated occupancy sensors optimize energy consumption by dynamically adjusting lighting levels based on activity throughout the warehouse.
- **Flexible Infrastructure:** The PoE-based architecture simplifies fixture relocation and warehouse reconfiguration without requiring major electrical modifications.
- **Operational Visibility:** The platform provides detailed visibility into lighting performance and energy consumption to support ongoing optimization and compliance goals.

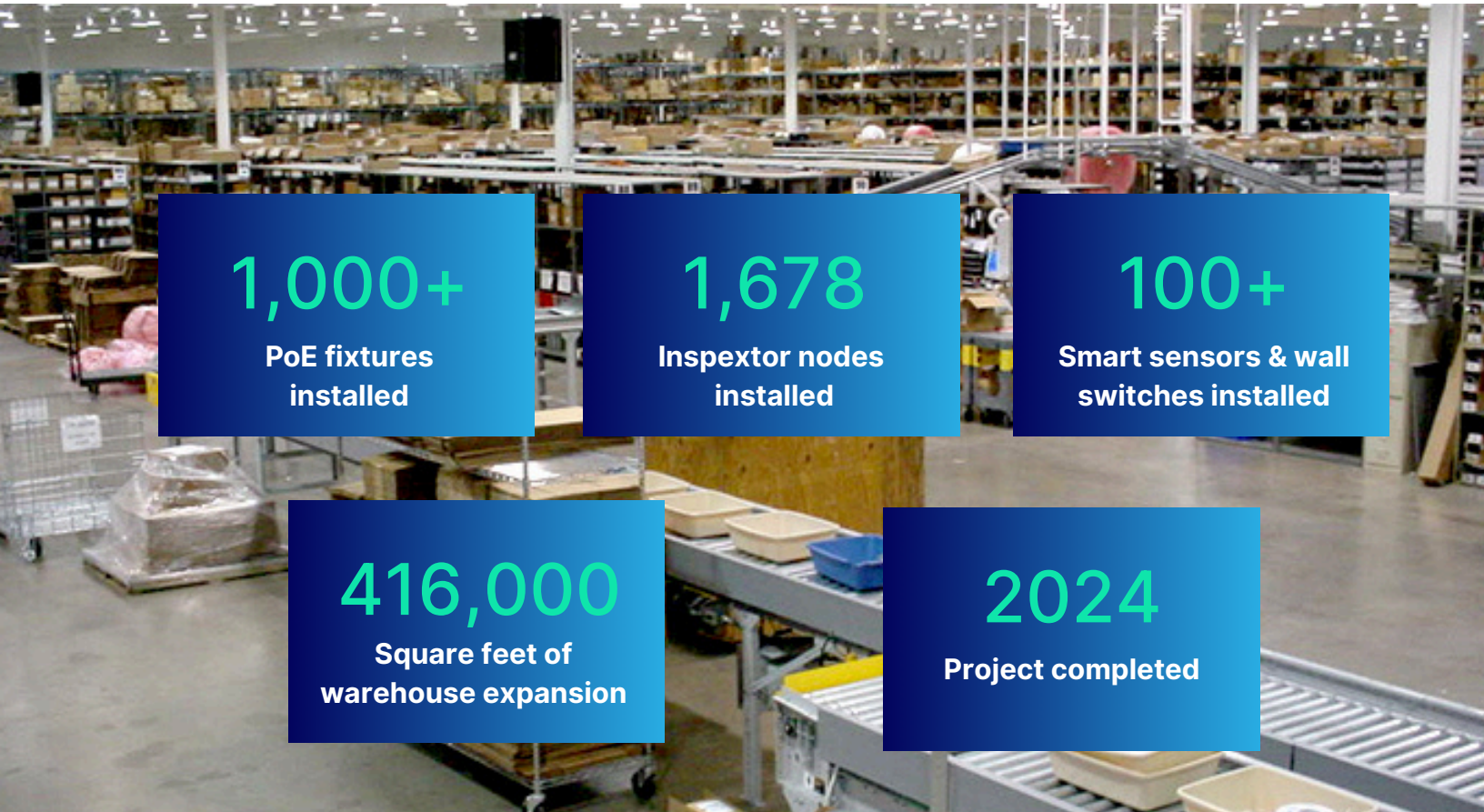
Key Benefits and Outcomes:

- **Improved Energy Performance:** The PoE lighting infrastructure reduces energy consumption while supporting centralized load management and occupancy-based automation.
- **Reduced Maintenance:** Low-voltage infrastructure and elimination of conventional LED drivers help reduce long-term maintenance requirements.
- **Enhanced Operational Flexibility:** Warehouse lighting can be easily adjusted, relocated, and reconfigured to accommodate changing operational needs and future expansion.
- **Infrastructure Efficiency:** The deployment reduced copper usage by approximately 60% and eliminated conduit requirements throughout the facility.
- **Sustainability Advancement:** The project supports environmental initiatives through reduced energy usage, and streamlined low-voltage deployment.



Our goal with this project was to modernize the warehouse with intelligent lighting and controls to improve operational efficiency and performance expected in today's distribution centers.

Quick Facts



1,000+

PoE fixtures
installed

1,678

Inspextor nodes
installed

100+

Smart sensors & wall
switches installed

416,000

Square feet of
warehouse expansion

2024

Project completed

Key Benefits

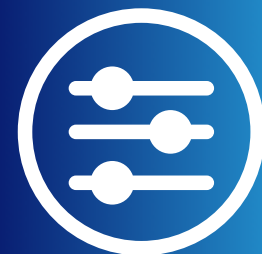
The Mouser deployment demonstrates how large-scale warehouse environments can leverage PoE lighting and fault-managed power infrastructure to improve energy efficiency, simplify deployment, and enhance operational flexibility. Centralized low-voltage architecture enables scalable lighting control while reducing infrastructure complexity and supporting long-term sustainability goals.



Infrastructure Efficiency



Energy Efficiency

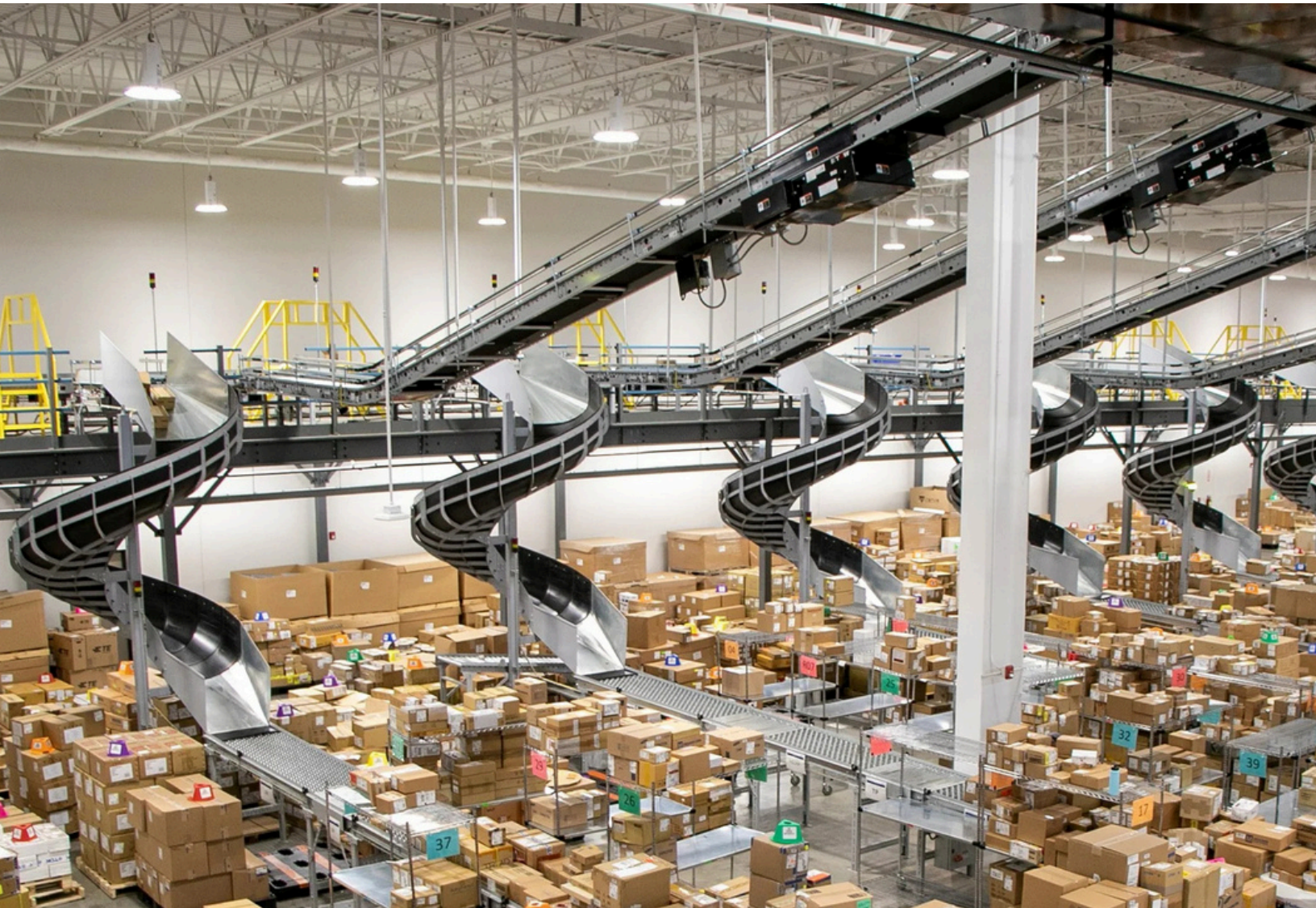


Centralized Control

Conclusion

Mouser Electronics' warehouse expansion demonstrates the advantages of integrating PoE lighting and fault-managed DC power infrastructure within large-scale distribution environments. By implementing intelligent controls, centralized management, and scalable low-voltage architecture, the organization created a more efficient, adaptable, and sustainable operational environment.

Through collaboration with MHT Technologies and project partners, Mouser successfully deployed a connected infrastructure platform capable of supporting advanced warehouse operations while reducing energy consumption, material usage, and long-term maintenance requirements. The deployment establishes a strong foundation for future warehouse growth and continued intelligent building innovation.



About MHT Technologies

MHT Technologies (MHT) was founded in 2009 with a focus on advancing low-voltage and Power over Ethernet (PoE) solutions for modern buildings. What began as MHT Lighting quickly evolved into a technology-driven organization specializing in intelligent infrastructure that powers connected environments.

Today, MHT delivers PoE hardware platforms, including its Inspextor nodes and controllers, enabling efficient lighting, environmental monitoring, and smart building integration across commercial, government, and enterprise spaces. By combining intelligent power distribution with scalable infrastructure design, MHT simplifies deployment, improves operations, and enhances overall building performance.

Headquartered in Manhattan, MHT operates a 55,000 sq. ft. engineering and manufacturing facility in Staten Island, holding ETL, UL, and ISO 9001:2015 accreditations. MHT designs and manufactures PoE and line-voltage lighting solutions while supporting clients through engineering expertise, system design, and project delivery.



AKRAM "AK" KHALIS

MHT Technologies CEO
& Inspextor Co-founder

“Guiding MHT Technologies is about transcending limits for what intelligent infrastructure can achieve. My focus is on delivering powerful smart building solutions that drive efficiency, elevate performance, and help organizations operate with greater insight and control.”

Headquarters

241 West 37th Street, 12FL
New York, NY 10018

US Manufacturing

1961 Richmond Terrace
Staten Island, NY 10302

Contact

+1 718-524-4370
sales@mht-technologies.com