



INTELLIGENT INFRASTRUCTURE CASE STUDY

New World Preparatory Charter School

Cisco Catalyst PoE infrastructure + the aida smart building platform



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Project Overview

New World Preparatory Charter School in Staten Island, New York, undertook a major lighting modernization to create a more efficient, comfortable and adaptable learning environment. The approximately 37,700-square-foot project introduces intelligent lighting and automated controls throughout classrooms, hallways and common areas.

aida, the smart building platform from Building AI Solutions, manages a Power over Ethernet (PoE) lighting infrastructure built on Cisco Catalyst switches and MHT Technologies' Inspextor hardware. The connected system provides centralized lighting management, occupancy-based automation and the flexibility to accommodate changing educational needs.

At a Glance

CUSTOMER NEED	Energy-efficient, automated lighting with centralized management across classrooms, hallways and shared learning spaces.
CISCO SOLUTION	25 Cisco Catalyst 9300 Series switches provide the PoE power and data backbone for 1,081 connected fixtures.
AIDA SOLUTION	aida provides centralized lighting management, scheduling and occupancy automation, running on MHT Inspextor nodes, fixtures and sensors over the Cisco network.
OUTCOME	1,081 fixtures under automated, occupancy-responsive control across the school, with staff trained to operate the system.

Project Details

Project Name: New World Preparatory Charter School

Vertical: K–12 Education

Date of Commission: 2025

Date of Completion: 2026

Location: Staten Island, New York

Primary Use Case: Intelligent PoE lighting and automated controls for K–12 learning environments, managed by aida

Project Size: Approximately 37,700 square feet

Project Needs

New World Preparatory Charter School required an energy-efficient lighting infrastructure that could adapt to classrooms, hallways and shared learning spaces. The system needed to provide automated lighting control, centralized management and greater flexibility while supporting a comfortable environment for students, teachers and staff.

1

Intelligent Lighting Controls

Integrate occupancy sensors and wall switches to automate lighting while allowing teachers and staff to make local adjustments.

2

Energy-Efficient Lighting

Install PoE-powered LED fixtures to provide consistent, efficient illumination throughout classrooms and common areas.

3

Centralized System Management

Establish a connected infrastructure that simplifies lighting schedules, monitoring and future system changes.

Solution & Process

aida and MHT Technologies delivered a Cisco-enabled PoE lighting solution combining the aida platform, Inspextor nodes, intelligent LED fixtures and smart controls. The network-based system provides centralized management and occupancy-responsive lighting throughout the school.

1. Planning

Evaluated lighting requirements and developed the PoE infrastructure design.

2. Deployment

Installed PoE fixtures, Inspextor nodes, sensors and Cisco network switches, managed through aida.

3. Commissioning

Configured lighting controls and trained staff to operate the system.



Project Challenge

New World Preparatory Charter School needed to modernize lighting across classrooms, hallways and common areas while keeping flexibility for different educational activities. The project required an energy-efficient infrastructure with automated controls, centralized management and simplified installation that could support the school's evolving technology needs.

Scope of Work

The deployment supports 1,081 PoE fixtures across approximately 37,700 square feet, with 541 MHT Inspextor node drivers, 150 splitters, 256 occupancy sensors and 140 smart wall switches providing automated lighting and flexible classroom control.

25 Cisco Catalyst 9300 Series switches provide the power and data backbone for the Inspextor nodes and connected fixtures, and aida provides centralized lighting management, supporting reliable PoE distribution, occupancy-based automation and scalable building operations.



Why Power over Ethernet?

Power over Ethernet provides an efficient approach to school lighting by delivering power, data and intelligent control through Ethernet infrastructure. This reduces the need for separate lighting control systems while supporting centralized management.

For New World Prep, PoE created a connected foundation for automated, occupancy-responsive lighting across classrooms, hallways and shared spaces.

Unified Infrastructure

Lighting, sensors and controls operate through a common low-voltage network, simplifying system design and deployment.

Centralized Management

Lighting is monitored and adjusted in aida rather than through isolated room controls.

Flexible Control

Occupancy sensors and wall switches let lighting adapt to classroom activities and school schedules.

Enterprise-Grade Network

Cisco Catalyst network technology provides a reliable foundation for distributing power and data to connected lighting devices.

Scalable Architecture

The network-based infrastructure supports future layout changes and additional intelligent building technologies.



Smart Control with aida

aida provides intelligent lighting control throughout New World Preparatory Charter School, connecting PoE fixtures, occupancy sensors and wall switches through one platform.

Lighting responds to classroom occupancy and scheduled activities, while school personnel get flexible control and simplified management.

- **Real-Time Monitoring:** Monitor connected lighting devices and system performance from a centralized interface.
- **Automated Scheduling:** Configure lighting schedules around school hours, classroom activities and facility operations.
- **Occupancy-Based Control:** Smart sensors automatically adjust lighting when classrooms and shared spaces are occupied or vacant.
- **Local User Control:** Wall switches let teachers and staff adjust lighting based on classroom needs.
- **Software-Based Configuration:** Lighting settings can be changed in aida as classroom layouts and educational requirements change.

Key Benefits & Outcomes

- ✓ Improved learning environment
- ✓ Centralized lighting management
- ✓ Greater operational efficiency
- ✓ Simplified system maintenance
- ✓ Energy-efficient lighting
- ✓ Flexible, scalable infrastructure



Quick Facts

The New World Prep project shows how PoE technology can modernize K–12 learning environments, combining Cisco network infrastructure, MHT Inspextor hardware and the aida platform.

37,700

sq. ft. of learning space

1,081

PoE-connected lighting fixtures

541

MHT Inspextor node drivers

256

smart occupancy sensors

140

smart wall switches

25

Cisco Catalyst 9300 Series switches

Conclusion

The New World Preparatory Charter School project shows how intelligent infrastructure can enhance K–12 learning environments. By bringing lighting, sensing and control together through a Power over Ethernet platform managed by aida, the school established a connected infrastructure designed for comfort, efficiency and flexibility.

Across approximately 37,700 square feet, 1,081 PoE lighting fixtures, 541 Inspextor node drivers and 396 sensors and wall switches provide automated lighting and centralized management throughout classrooms, hallways and shared spaces.

Cisco Catalyst network technology provides the power and data foundation, and occupancy-based automation in aida helps school personnel manage lighting around classroom activities and facility schedules.

Further reading: [Cisco Newsroom: “In an underserved New York neighborhood, a school with the best in tech”](#)

About aida

aida™ by Building AI Solutions is a smart building platform that brings lighting, shading, HVAC and sensors under one intelligent control layer. The aida Controller runs at the edge of the building network, so schedules, occupancy automation and daylight control keep working even when the internet does not, while the aida cloud platform gives operators centralized visibility across every site.

aida is built for Cisco networks. It runs PoE lighting and devices powered by Cisco Catalyst switching, and integrates with Webex (room controls on Room Navigator), Cisco Spaces (floor plans) and Splunk (building events and energy data).

Project Partners

Building AI Solutions (aida) — Smart building platform: lighting and shading control, scheduling, occupancy automation and monitoring.

Cisco — Catalyst 9300 Series switching: PoE power and data for every connected fixture.

MHT Technologies — PoE hardware, including Inspextor nodes and fixtures, plus system design and installation.

About Building AI Solutions

Building AI Solutions Inc. is headquartered in New York City. aida is deployed with partners MHT Technologies and Digital Building Solutions.



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[See aida running on Cisco →](#)