Element Materials Technology
Case Study: Lab Retrofit Project

PROJECT SCOPE

Date:
March 8, 2024

Company Name:
Element Materials Technology

Location:
Burton, MI

Facility Size:
56,000 square feet

Technology Before:
Fluorescent interior lights and metal-halide exterior lights

Orion LED Products Installed:
Troffer Retrofit Kits, High Bay Fixtures, Exterior Wall Pack Fixtures, Strip Fixtures, Exterior Area Lights, Exterior Flood Lights

INTRODUCTION

Element Materials Technology, a global leader in product testing, inspection, and certification services, aimed to upgrade their lab facility for sustainability and energy efficiency. Partnering with Orion, they sought to transition from traditional lighting to LED technology, aiming for improved energy savings, lighting quality, and reduced environmental impact.

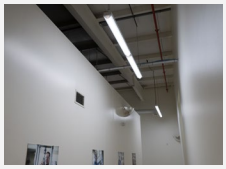
CHALLENGES

Prior to the retrofit, Element's lab facility in Burton, MI relied on fluorescent and metal-halide lighting systems, which consumed significant energy. Recognizing the need for a comprehensive lighting update, Element aimed to:

- ✓ Maximize energy savings while enhancing lighting performance.
- ✓ Improve light quality and distribution across various lab testing areas, office spaces, corridors, and exterior facility locations such as parking lots and walkways.
- ✓ Reduce maintenance costs associated with outdated lighting fixtures.
- ✓ Implement sustainable solutions to reduce location-based Scope 2 emissions.

ORION'S SOLUTION

Orion was chosen as the preferred lighting partner for Element's retrofit project due to its ability to deliver a turnkey lighting solution tailored to the diverse needs of the laboratory environment. Orion's product portfolio offered stylish, high-performing, and energy-efficient LED fixtures designed to meet Element's specific requirements. Each product was strategically selected to optimize energy savings, enhance lighting quality, and ensure seamless integration with Element's existing infrastructure.



The following Orion products were installed as part of the retrofit:

- LDRE3 Troffer Retrofit Kits
- HHSL2 High Bay LED fixtures
- SFHC2 LED Strip fixtures
- LSCS1 Canopy Fixtures
- LSWS1 Wall Pack
- IAHP1 Exterior Area Lights
- FLGA3 LED Flood fixtures

RESULTS

The retrofit project yielded significant improvements in energy efficiency, lighting performance, operational cost savings, and reduced environmental impact. The key results achieved include:

Annual Energy Reduction
130,146 kWh

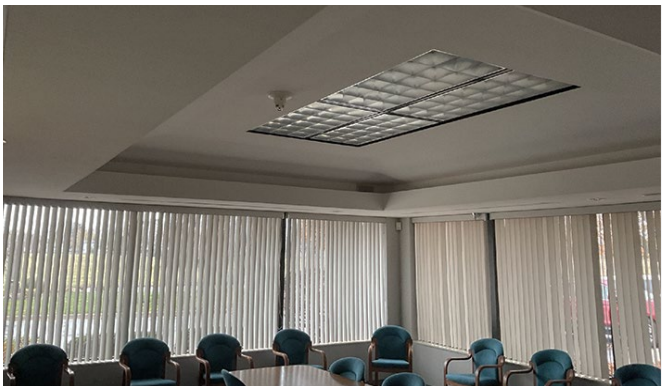
Annual Energy Cost
Reduction: $17,309

Annual Carbon Dioxide
Reduction: 66 Tons

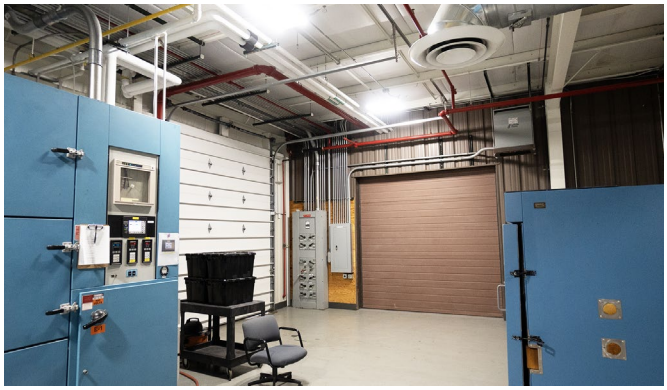
Quantity of Fixtures
Installed: 397

By transitioning to LED technology, Element effectively reduced its carbon footprint, minimized energy consumption, and achieved substantial cost savings on an annual basis. The upgraded lighting not only enhanced the aesthetics of the facility but also provided optimal lighting conditions critical for Element's testing and inspection processes.

BEFORE



AFTER



CONCLUSION

Element Materials Technology's lab retrofit project in Burton, MI, serves as a testament to the company's commitment to innovation, operational excellence, and goal to reduce location-based Scope 2 emissions. By partnering with Orion and embracing LED technology, Element successfully transformed its lighting infrastructure, realizing significant energy savings, and reducing environmental impact. This project underscores the importance of proactive sustainability initiatives and the transformative power of LED lighting in modernizing industrial facilities, while achieving long-term economic and environmental benefits. All materials were removed and recycled according to EPA standards and requirements, ensuring compliance with environmental regulations and promoting responsible waste management practices.