

Powering Smart Buildings with Cisco PoE and Molex CoreSync



Solution Brief

Power over Ethernet (PoE) technology transforms smart building infrastructure by delivering power and data over a single Ethernet cable, simplifying installation and boosting efficiency. Cisco, a global leader in networking, provides high-power PoE through Universal Power over Ethernet (UPOE) and IEEE 802.3bt standards, supporting up to 90W per port for devices such as lighting and sensors. Molex, a leader in connectivity solutions, enhances this with its CoreSync platform, featuring products like the CoreSync PoE Gateway (90W) and Air Quality Monitor, paired with software for precise LED lighting control. Through the Cisco-Molex Engineering Alliance, these validated solutions leverage Molex's innovative connectivity and sensor technologies to deliver interoperable, scalable, and high-performance smart building deployments, creating intelligent, sustainable, and occupant-focused environments.

About Cisco

Cisco (NASDAQ: CSCO) is the worldwide leader in technology that powers the internet. Cisco inspires new possibilities by reimagining your applications, securing your enterprise, transforming your infrastructure, and empowering your teams for a global and inclusive future.

The Challenge

Building owners and occupants face complex infrastructure, energy inefficiencies, and fragmented systems that hinder automation and well-being. Traditional setups require separate power and data cabling, increasing installation and maintenance costs. Inefficient lighting and HVAC systems drive high energy consumption, while poor integration between building management systems limits real-time data sharing, complicating efforts to optimize controls for lighting, air quality, and solar shading to reduce energy use and operational costs.

The Cisco-Molex partnership addresses these challenges with Cisco's PoE technology, which consolidates power and data delivery, and Molex's CoreSync platform, which simplifies infrastructure, enhances energy efficiency through intelligent automation, and ensures seamless integration for scalable, occupant-centric smart buildings.

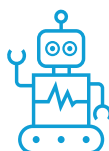
About Molex

Molex is a global leader in connectivity solutions, delivering innovative electronic components and systems for industries including automotive, data centers, and smart buildings. With over 80 years of expertise, Molex empowers customers with reliable, high-performance products to enable the connected future.

Key Challenges



Occupant Well-being



System Automation



Energy Efficiency

Key Benefits of the Joint Solution

The Cisco-Molex partnership delivers a comprehensive smart building ecosystem, addressing critical challenges with the following benefits:

Simplified Infrastructure: Cisco's UPOE and IEEE 802.3bt standards enable the CoreSync PoE Gateway to deliver up to 90W to multiple devices, such as LED drivers and sensors, over a single Ethernet cable. This eliminates separate power wiring, reducing installation costs by up to 30% and lowering the carbon footprint compared to traditional systems. PoE lighting solutions reduce cable weight by 80% compared to DALI systems and cut installation and commissioning time by 50%, streamlining retrofits and new builds while enhancing sustainability.

Enhanced Energy Efficiency: PoE optimizes energy use by delivering power and data over a single cable, reducing lighting energy consumption by up to 50% in commercial settings through features like daylight harvesting, occupancy-based controls, and time scheduling. Low-power devices, such as the CoreSync Air Quality Monitor (operating at less than 2W), provide environmental data for continuous monitoring to optimize HVAC performance, further lowering energy costs while maintaining thermal comfort and air quality.

Precision LED Lighting Control: Molex's CoreSync Smart LED Drivers offer tunable white lighting, precise dimming, individual addressability, and integrated power monitoring. The CoreSync Dashboard provides user-friendly control for occupants, while analytics track energy usage and fixture health, extending system lifespan and reducing maintenance costs.

Comprehensive Environmental Monitoring: A network of sensors monitoring occupancy, light levels, temperature, humidity, CO₂, VOCs, particles, and pollution enables detailed tracking of space utilization and air quality, supporting occupant well-being and informed decision-making.

Actionable Building Intelligence: Real-time data from sensors monitoring power consumption, air quality, thermal comfort, real time space utilization and light levels, combined with LED fixture analytics, feed the CoreSync Dashboard's analytic engine. Visualized on 2D floor maps and heatmaps, these insights enable predictive and prescriptive maintenance, reducing costs and extending device lifespan. Real-time controllers optimize lighting for space functionality, while occupancy data triggers automated HVAC and lighting adjustments, cutting operational costs by up to 20% in high-traffic areas.

Rapid Return on Investment (ROI): Investments in IoT sensors, switches, and analytics can yield ROI within six months to two years. This infrastructure serves as a foundation for future upgrades, expansions, or improvements. Sustainable buildings with green certifications can also attract rent premiums of up to 3.7%.

Conclusion

The Cisco-Molex joint solution integrates Cisco's high-power PoE technology with Molex's CoreSync platform to deliver a scalable, efficient, and intelligent smart building ecosystem. By addressing infrastructure complexity, energy inefficiency, and automation needs, it empowers building owners to create sustainable, occupant-centric spaces.

For more information, visit:

- Cisco Smart Building Solutions: <https://www.cisco.com/site/us/en/solutions/smart-building/>
- Molex CoreSync Products: www.molexces.com/coresync

**<2yrs
ROI**

Return on investment applied to IoT sensors, switches, and analytics can occur in six months to two years. (3) The infrastructure then becomes the foundation for upgrades, improvements or expansions.

**3.7%
Increased Rent**

Buildings with green certifications attract rent premiums of up to 3.7% (2)

**50%
Savings**

Commercial buildings are notorious for wasting electricity. A wholly smart building with integrated systems can realize savings up to 50%, up to 2.37kWh/sq ft. (1)