

CommScope harnesses the power of PoE in Madrid

End User

CommScope

Country

Spain

Challenges

CommScope develops solutions to help its customers meet a wide range of communications technology challenges. The company is also a global distributed enterprise that faces many of the same facilities challenges its customers face—including supporting dynamic work environments, maximizing energy savings, optimizing space and improving employee productivity.

CommScope encountered these challenges when it consolidated several offices in Madrid to a single facility that opened in June 2017. The new space needed to have a best-in-class technology infrastructure that would support employees who are connected 24/7 while working from anywhere at any time. CommScope also sought to optimize energy usage in the office.



Next-generation infrastructure

To meet its modernization goals in Madrid, CommScope turned to advanced cabling technology that is designed to support emerging Power over Ethernet (PoE) applications. This technology transmits data and electrical power to remote devices over the same cable, including building controllers and sensors, LED lights, Voice over Internet Protocol (VoIP) phones and security cameras. The ability to connect devices without separate electrical power cable runs removes obstacles to optimal

device placement and reduces installation and deployment costs.

The Madrid office uses 3560-CX PoE Cisco switches for the connected lighting system and 3650 PoE Cisco switches for the remaining PoE devices. A cabling approach known as the universal connectivity grid (UCG) provides the greatest flexibility and easiest integration of PoE-enabled devices. UCG divides floor space into evenly sized areas, or “cells.” Horizontal cabling runs from the telecommunications room to a consolidation point within each cell,

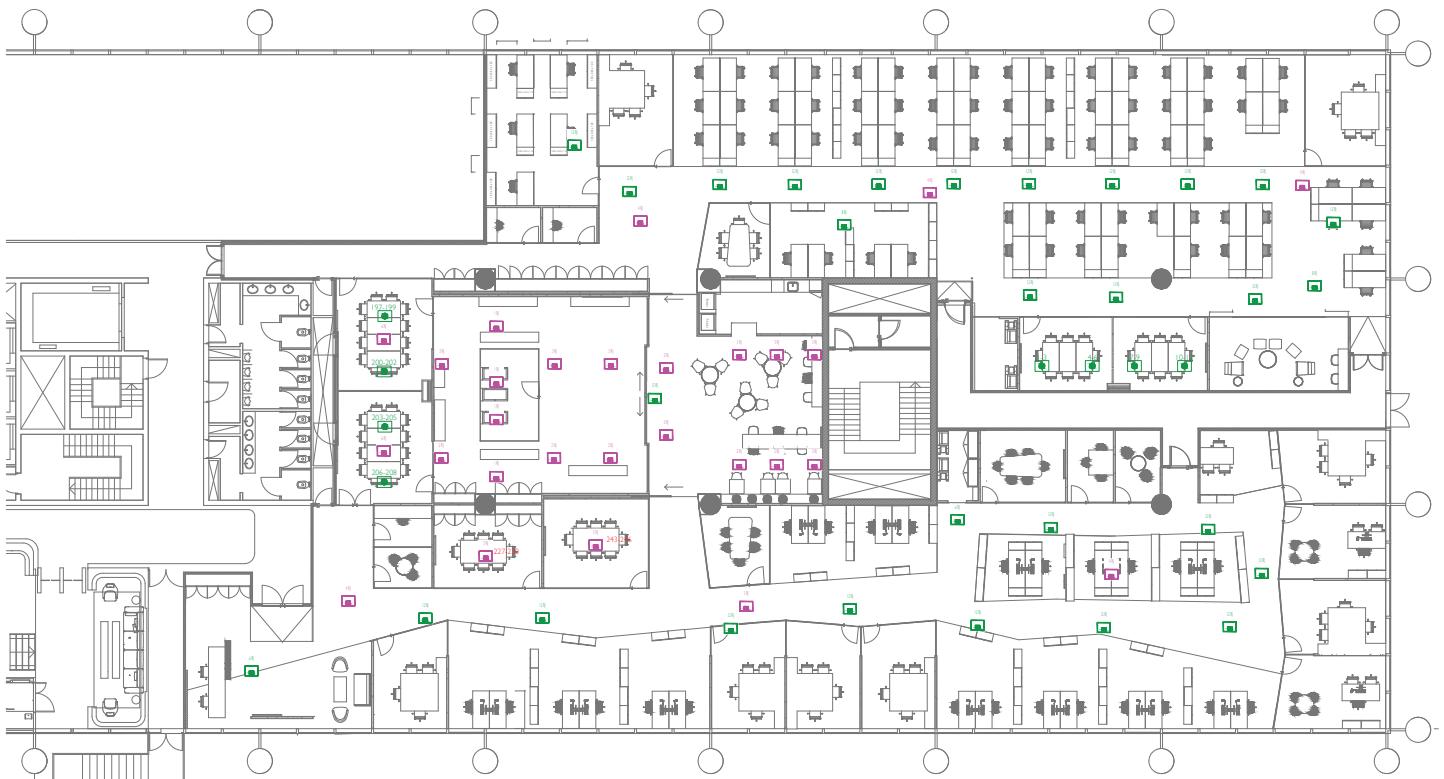


Figure 1: Location of consolidation points (green) and service connection points (pink)

which supports the various system devices within its cell. The UCG approach will help the Madrid office streamline workstation moves, adds, changes and upgrades.

"Enterprise workspace is evolving to support next-generation connectivity, communication, collaboration and efficiency. Cisco's digital building solution allows enterprise users like CommScope to meet these challenges—converging standalone systems into one IP platform and laying a foundation for next-generation smart buildings."

Antonio Conde

IoT and Digital Transformation Manager, Cisco Spain

Category 6A cabling provides high bandwidth and remote power to support legacy and emerging intelligent building applications, making it the ideal foundation for connected devices today and in the future. CommScope deployed SYSTIMAX® GigaSPEED X10D® Category 6A cabling in Madrid for this reason.

Another important consideration in using Category 6A was thermal load. As PoE networks and devices increase exponentially, so do power demands. Wireless access points, digital signs,

videoconferencing systems and LED lighting increase the amount of power running through cables. High power levels increase the thermal load in cabling. Category 6A minimizes this effect while supporting applications up to 10 Gbps—enabling the office to accommodate future demand.

"Applications that use more power are already a reality. Category 6A is the best choice to support PoE demands today and in the future."

Alberto Martinez

Director of field application engineers for Southern Europe, Turkey, Belgium, the Netherlands and Luxembourg, CommScope.

Enhanced mobility

Seamless wireless coverage and open platform solutions are critical in supporting CommScope's bring-your-own-device policy. This includes the ability to support the growing demand for in-building wireless traffic.

To meet the requirements for high-quality mobility throughout the Madrid office, CommScope deployed the ION®-E enterprise distributed antenna system (DAS). Unlike traditional analog DAS

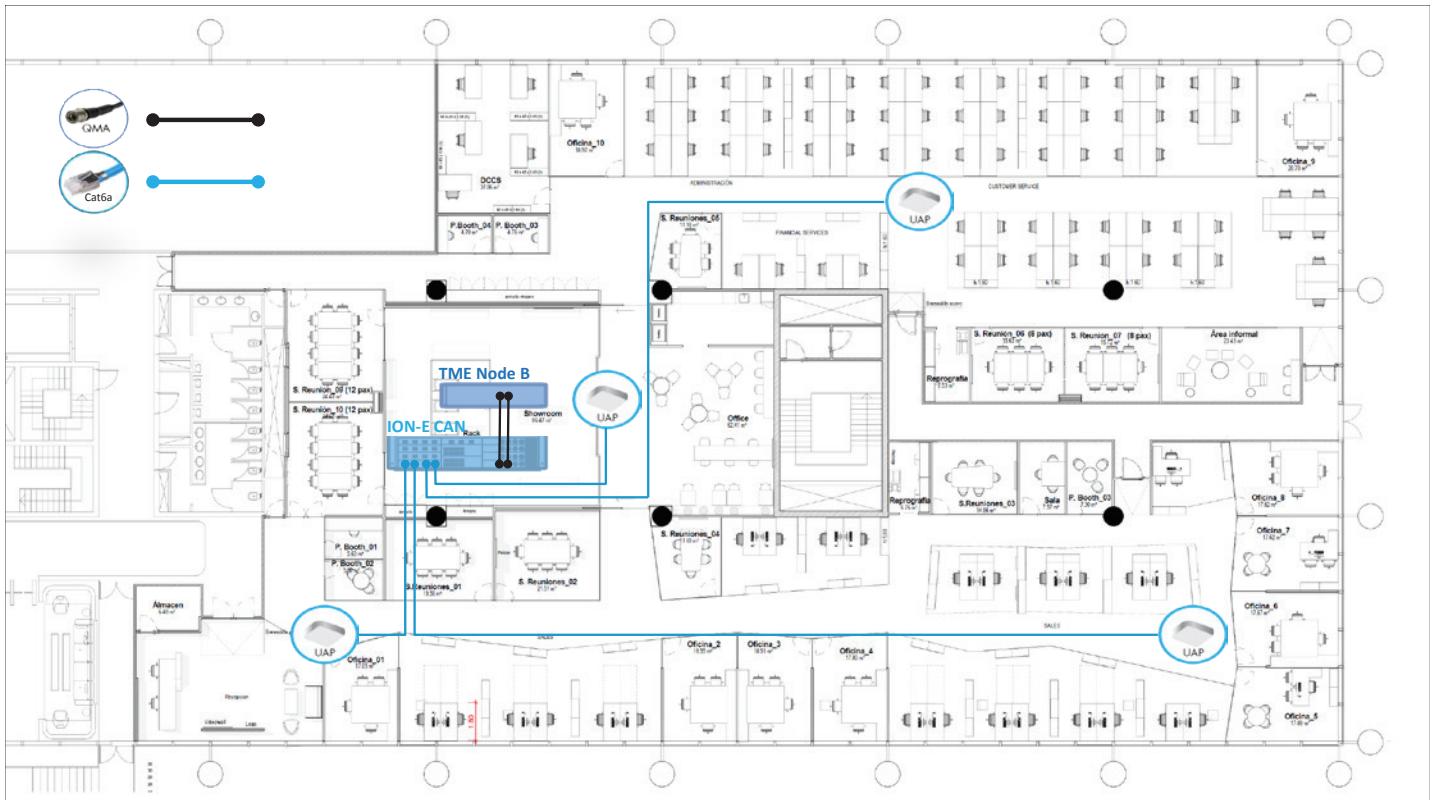


Figure 2: Location of UAPs and schematic of in-building wireless ION-E solution

that requires bulky dedicated coaxial cabling, ION-E is completely digital. This allows it to take advantage of Category 6A structured cabling, such as SYSTIMAX, to distribute signals and power to the system's universal access points (UAPs) throughout the building. ION-E supports multiple mobile network operators and mobile technologies—including 4G/LTE, 3G and 2G—on a single system. Employees and visitors receive “five bar” cellular voice and data service throughout the building in Madrid.

Automating for efficiency

CommScope is using the imVision® Automated Infrastructure Management (AIM) solution to manage the network infrastructure at the Madrid office. The imVision solution provides network administrators with real-time visibility and control of the network's physical layer. It also helps manage the PoE availability at each Cisco switch. imVision monitors and records changes to device connections and automatically generates alarms to alert staff to any unauthorized or unplanned events. Thanks to recent software enhancements, imVision provides additional monitoring capabilities for all PoE-enabled links.

Automation doesn't stop there. The Madrid office has an intelligent lighting system that uses PoE technology to support efficiencies.

Energy-saving LED lights and fixtures from Philips Lighting and sophisticated sensors provide the right amount of light based on changing occupancy and daylighting conditions. Lights dim automatically on sunny days and provide additional light when the team needs it.

As shown in Figure 3, data collected from the lighting system enables historical analysis of how often employees use workspaces. Managers can then decide how to allocate space based on usage and establish efficient energy management policies.



Figure 3:Heat map of places with more use (red) and less use (blue)

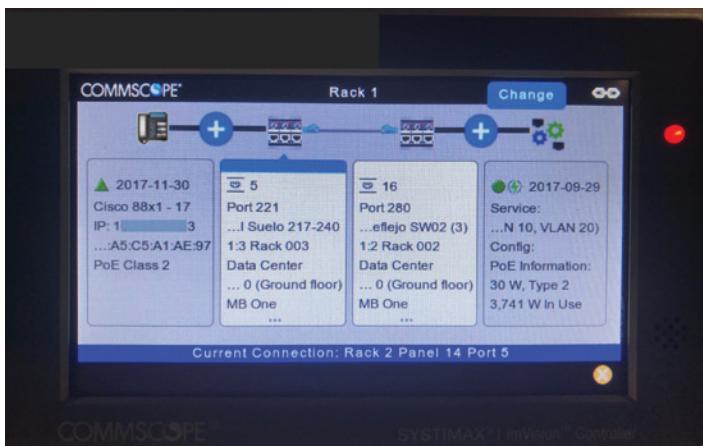


Figure 4: imVision controller

"Integrating a Philips connected lighting system using PoE technology is an ideal way to meet sustainability goals and realize financial savings from space optimization and employee productivity."

José Ramón Córcoles

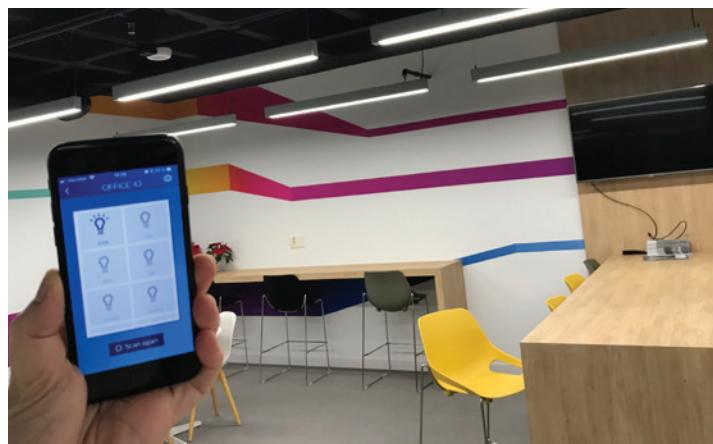
Control Systems Director, Philips Lighting

In the four months the Madrid office has been open, it has achieved a 20 percent energy savings, thanks to PoE-connected lighting, Martinez says. He anticipates the savings will increase in the near future as they become more familiar with the system and continue to optimize their lighting policy.

Ecosystem collaboration for future-ready buildings

Thanks to the collaboration with Cisco Systems, Inc., Philips Lighting, and Powernet, CommScope in Madrid now has an intelligent and connected work environment that combines wireless, automation and energy efficiency solutions under one roof.

"Seeing the benefits of these systems for our own office makes me even more confident about proposing them to our customers," Martinez says.



PartnerPRO® N E T W O R K

Madrid-based Powernet, a member of CommScope's PartnerPRO Network, deployed the PoE network. The company installed the voice and data network and the wiring for powering workstations. Powernet also commissioned, installed and configured the connected lighting system.

The PartnerPRO Network is an exclusive association of trained and certified consultants, installers, distributors and alliances that help deliver CommScope's network solutions.

CommScope (NASDAQ: COMM) helps design, build and manage wired and wireless networks around the world. As a communications infrastructure leader, we shape the always-on networks of tomorrow. For more than 40 years, our global team of greater than 20,000 employees, innovators and technologists has empowered customers in all regions of the world to anticipate what's next and push the boundaries of what's possible.

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