Success Story



The University of Tennessee finds a powerful network partner in CommScope

Customer The University of Tennessee

Country: United States of America

Founded in 1794, the University of Tennessee, Knoxville, is older than its state. The university has since grown to 27,845 students enrolled for fall 2015, and houses the country's fifth-largest stadium with seats for 102,455 screaming fans.

Despite the academic institution's rich historical roots, the university is connected for the modern age. UT has indoor and outdoor Wi-Fi access points, operates three data centers, and maintains 220 miles of singlemode fiber optic cable and hundreds of security cameras across its 580 acres. With such a complex infrastructure, UT constantly looks for ways to update its networking power to provide staff and students the fastest and most secure wireless experience possible. As a part of a \$1.2 billion renovation and expansion project in pursuit of that goal, UT turned to CommScope to deploy more outdoor wireless access points and security cameras throughout its campus.



The challenges of an expansive outdoor wireless network

Deploying an outdoor wireless network with secure, seamless performance across a large university campus presents a unique set of challenges:

- Gaining access to the necessary electrical power for an effective network can be difficult and expensive.
- Safety is an issue when this much power is in play.
- A jumble of cables and visible "big boxes" for wireless access would mar visual aesthetics, particularly at a campus as beautiful as UT.

Finding a partner up to the task

The university's IT department chose to test out the CommScope Powered Fiber Cable System before committing to a full partnership that would keep the university's staff and students constantly connected.

"We completed a joint trial of the Powered Fiber Cable System with CommScope to validate its ability to deliver data and power of Ethernet across long distances," says Ben Rayfield, IT Technical Specialist IV at the University of Tennessee, Knoxville.

The Powered Fiber Cable System consists of hybrid copper/fiber cable and power over Ethernet (PoE) extenders. The CommScope system also comes with cable/ fiber management, power transmission management, safety and overload protection and a universal power supply. The entire system is built to withstand the elements of an outdoor setting.



The Powered Fiber Cable System enables CommScope customers to:

- **Improve productivity.** CommScope combines power and communications into one sheath for improved camera and wireless device placement and maximum coverage.
- **Realize cost savings.** Instead of deploying expensive electrical power, CommScope uses SELV and NEC Class 2 cables cutting conduit cost in half and eliminating any need for electricians. Additionally, CommScope gets rid of remote PoE switch installation costs; the Powered Fiber Cable System is able to deliver PoE over distances 30-times longer than traditional PoE systems.
- Achieve optimal safety. The Powered Fiber Cable System has three stages of electrical protection, as well as low voltage electrical codes designed specifically for human safety.
- **Maintain outdoor aesthetics.** The centralized architecture can be hidden easily in outdoor lampposts and street work.

As a result, the Powered Fiber Cable System delivers faster, more reliable outdoor Wi-Fi access and increased security with a quicker, less-costly deployment — all without an obvious footprint.



Bringing UT's campus up to speed

The CommScope trial run at UT aimed to demonstrate the PoE extender's power delivery and network performance over one kilometer of the Powered Fiber Cable.

"Delivering power is one of the big roadblocks for any technology deployment outdoors and can add significant time and costs to projects. Our Powered Fiber Cable System is ideally suited to campus environments and uses technology very familiar to IT professionals."

– Marc Bolick–SVP, PLM Inside Plant Fiber, Connectivity Solutions

During the trial, the PoE extender was placed at a campus location with an Aruba AP-275 outdoor wireless access point and Avigilon PTZ camera. The copper and fiber were connected at this same spot. Once the Cat6 cable was connected to the Aruba Wi-Fi unit, the university's IT staff verified successful Wi-Fi access via laptop computers. The Avigilon camera also passed its performance test. UT security system experts were pleased with the camera's response speed over the one-kilometer cable length.

The trial run demonstrated faster, more reliable Wi-Fi access with strong security benefits and competitive pricing, but CommScope still had one more hurdle to clear. The university's beautification committee had to sign off on the project. CommScope was able to show how its PoE extenders could be mounted on discrete brackets or neatly tucked away inside lampposts. Connecting cables could run inside the post to the Wi-Fi access points and security cameras. After seeing how the Powered Fiber Cable System could blend into its surroundings and leave an uninterrupted view of the university's pristine campus, the committee gave its stamp of approval.

Building the road to a fast and secure wireless future

CommScope and UT are now in the process of analyzing and planning the first deployment phase that will be a part of the university's Volunteer Boulevard Streetscape project, an initiative to reimagine the street as a pedestrian-friendly avenue.

"After the trial, we felt comfortable in using the CommScope cabling solution to upgrade our outdoor network for the needs of our students today and in the future," Rayfield says.

Visit our website or call your CommScope sales representative today to learn more about the Powered Fiber Cable System behind the University of Tennessee's upgraded wireless and security network experience. Everyone communicates. It's the essence of the human experience. How we communicate is evolving. Technology is reshaping the way we live, learn and thrive. The epicenter of this transformation is the network—our passion. Our experts are rethinking the purpose, role and usage of networks to help our customers increase bandwidth, expand capacity, enhance efficiency, speed deployment and simplify migration. From remote cell sites to massive sports arenas, from busy airports to state-of-the-art data centers— we provide the essential expertise and vital infrastructure your business needs to succeed. The world's most advanced networks rely on CommScope connectivity.



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