

The State Grid Hunan Electric Power Building successfully applies CommScope technology to provide electricity for millions of users



Customer

State Grid Hunan

Country

China

Challenge

To meet growing demand, a major electric utility turned to CommScope for a stable, reliable, flexible cabling solution capable of powering the communications, dispatch and network systems that keep the grid up and running.

CommScope solution

State Grid Hunan Electric Power Company is a large, state-owned energy supplier in China, which functions as the framework electric company for Hunan province. The company is involved in the construction, function, management and operation of the Hunan Grid, providing electric power to the province.



“The scale and complexity of this project really showcases our technical and management expertise. It is being viewed as a benchmark project in central China, so it’s reinforcing our reputation as a world-class provider within the country’s electric utility industry.”

Laura Chen, Vice President of Sales
CommScope North Asia

Communications, power dispatch and data network systems are factors critical to State Grid Hunan’s ability to deliver reliable power supply to its commercial and residential customers. To stay ahead of growing demand, the company decided to build a new, state-of-the-art dispatching and communication building.

Designed to take full advantage of smart building technology, the new building required a stable, flexible and cost-effective network infrastructure that would enable

it to meet State Grid Hunan’s increasing dispatch, communication and network demands without requiring significant infrastructure investment in the future.

The company turned to its trusted long-time partner CommScope to deliver an advanced cabling solution that will serve its needs for the next 12-15 years. State Grid Hunan has seen excellent results from prior CommScope cabling solutions that have passed real-world tests for long-term reliability and stability.

CommScope's SYSTIMAX® copper cabling pulls it all together

The new dispatching and communication building contains an estimated 20,000 information points served by:

- 850,000 meters of horizontal U.S. Category 6 unshielded copper cable
- 13,000 meters of six-position OM3 10 Gigabit multimode cable
- 35,000 meters of singlemode fiber cable
- 850 MPO preterminated cables

In the building's data center, the copper cable plant system includes approximately 420 24-port cable distribution frame racks and 600 48-port cable distribution frame racks. To make the connections this complex system required, CommScope provided a comprehensive SYSTIMAX® cabling solution, including:

- **Category 6 copper cable:** UL-certified for long- and short-chain connection of the entire channel, supporting six connections to overcome short-channel effects.
- **10 Gigabit multimode 300 and 550 cables:** Both solutions have passed the UL DMD certification tests with DMD measurements that far exceed required standards.
- **TeraSPEED® singlemode cable:** Reduces loss at the 1383 nm "E-band" and takes advantage of zero water peak cabling technology to increase available bandwidth by 60 percent.
- **InstaPATCH® Plus MPO preterminated cable:** Replaces traditional LC splicing to meet the requirements of high-speed communication in data center cables.

These SYSTIMAX cabling systems are built to last and guaranteed to perform on three levels:

- 20 years of quality assurance
- 20 years of application assurance
- Guaranteed electromagnetic compatibility

The proven strength and duration of these guarantees were critical factors in State Grid Hunan's decision to rely on CommScope's long-term infrastructure solutions.

Designed and deployed by a CommScope PartnerPRO® provider

Both the building and data center equipment room cabling solutions were designed and installed by EastBridge Technology, a member of the CommScope PartnerPRO® Network. Since EastBridge is an approved provider, The State Grid Hunan Electric Power Building also benefits from CommScope's 20 year warranty on the SYSTIMAX products. Faced with a tight construction schedule, a complicated system design and a large amount of installation work, CommScope collaborated closely with EastBridge to meet all construction

regulations and technical requirements, delivering product to the jobsite in a timely manner.

In advance of the project, the EastBridge installers had received training from CommScope to certify their SYSTIMAX expertise. Technicians who have undergone SYSTIMAX training certification must meet specific quality standards for system design and installation. Every year, updates are added to the curriculum (offered globally) and the latest technical documents are provided to ensure optimal technician competence.

Current and latent performance advantages

CommScope's SYSTIMAX cabling solution improves the State Grid Hunan Electric Power Company in the following ways:

- **Security and reliability:** Enabled the dispatch, communication and data network to operate at a much higher efficiency, establishing a reliable operational foundation.
- **Fast, stable configuration:** The MPO pretermination solution saved a significant amount of installation time and labor expense, helping to ensure prompt project completion and stable system operation.
- **Future-ready:** The MPO pretermination solution is equipped to handle the explosive network bandwidth increase expected from cloud computing. It can also be upgraded smoothly from serial to parallel transmission.

An expanded role in China's fast-growing power industry

Meeting the challenges posed by a large-scale project like State Grid Hunan demanded strong support capabilities in product stocking, logistics and asset consolidation to ensure timely completion. With many SYSTIMAX distribution channels throughout China, CommScope was able to ensure adequate stock levels while providing timely product delivery.



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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