Outdoor wireless network solutions

To add capacity without compromising performance, count on CommScope
Partner with a proven innovator.

**Trust CommScope to help you expand.**

Driven by the explosive growth of network data traffic, the wireless industry is in a time of dramatic transformation. Relentless demand for more bandwidth, fast-changing technologies, slowing subscriber growth and the impending arrival of 5G are causing massive disruptive shifts in the wireless landscape.

Meanwhile, your competitors aren’t standing pat—and your subscribers aren’t necessarily staying put. New operators, sub-brands, subsidiaries and other upstarts are attracting price-sensitive customers while alternative coverage technologies—Google balloons, Facebook drones, Wi-Fi calling, Hot Spot 2.0, micro-satellites—are offering more connectivity options.

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**Densification**—deploying small cells, upgrading MIMO capabilities and adding sector-splitting solutions

**Optimization**—mitigating passive intermodulation (PIM), noise and interference, and adding bandwidth through technology migration and deployment of new and refarmed wireless spectrum.

**Virtualization**—migrating to cloud RAN, moving to software-defined networking and deploying fiber backhaul.
As you work to stay ahead of these trends, adding more capacity and getting better performance from your network is key. But, with new site development becoming more challenging, you need to make the most of your existing infrastructure through:

- **Densification**—deploying small cells, upgrading MIMO capabilities and adding sector-splitting solutions
- **Optimization**—mitigating passive intermodulation (PIM), noise and interference, and adding bandwidth through technology migration and deployment of new and refarmed wireless spectrum.
- **Virtualization**—migrating to cloud RAN, moving to software-defined networking and deploying fiber backhaul.

CommScope can help you pursue these strategies with a full range of network infrastructure solutions that solve critical issues in the design, build, installation, commissioning and operation of wireless cell sites: ensuring there is sufficient power at the cell site, providing sufficient backhaul, simplifying site acquisition and minimizing PIM and other interference. Our solutions deliver:

- **Simplicity**—easy to deploy and maintain
- **Efficiency**—save energy and operate reliably to lower cost of ownership
- **Capacity**—scale up capacity quickly and economically as needs grow
- **Performance**—provide an optimal user experience to increase customer satisfaction, subscriber loyalty and revenue

Sharing the wonders of Yakusigi Forest like never before

A case study partnership with KDDI and CommScope

Read the full story here.
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Outdoor wireless network portfolio

Only CommScope offers everything you need to build, equip, scale, manage and optimize your high-performing wireless network.

- We provide reliable, innovative infrastructure solutions and services for every kind of cellular site: towers, street corners, rooftops and concealed sites.
- Our PIM-certified components and interference mitigation filters minimize PIM and other interference to optimize performance and protect your network investment.
- And the quality and reliability of every CommScope solution is assured through extensive in-house testing.

MULTIBAND SOLUTIONS

Streamline LTE and MIMO implementations, plus be ready for new bands with CommScope multiband solutions that include multiband antennas, combiners, and tower mounted amplifiers. These multiband solutions reduce complexity, while offering a lower overall profile with less site equipment. Our multiband solutions are designed to:

- Simplify RF connectivity
- Enable sharing of tower-top equipment
- Maximize capacity and performance

Reduce your antenna and cable count to fewer per sector by utilizing a multiband system that supports the major air interfaces and multiple frequency ranges. Using multiband solutions with ultra-wideband capabilities also prepares your network for future band releases.

SECTOR SCULPTING SOLUTIONS

CommScope sector sculpting solutions are designed to deliver superior wireless performance and optimum capacity management, even for heavy network traffic. Using beam shaping with narrowbeam antennas, sector overlap is minimized for higher data throughput. By using the same technology in multibeam antenna systems, we significantly boost capacity by splitting the main power beam into perfectly aligned multiple beams. Remote beam tilting capability allows the coverage plan to evolve through cycles of densification and traffic growth. Quick and easy to deploy, our sector sculpting solutions include:

- Beam shaping with narrowbeam antennas for dense urban areas
- Multibeam antenna systems for sector-splitting applications, designed for quick and easy deployment for macro sites and for Cell on Wheel (COW) flexibility
- Remote electrical beam tilting

With thousands of successful deployments around the world, we’re a global leader in the design, engineering, installation and maintenance of sector sculpting solutions.

Patent pending Filter Products PIM test delivers twice the intensity of standard industry tests.
**FTTA CONNECTIVITY SOLUTIONS**

Using HELIAX® FiberFeed® connectivity, CommScope’s fiber-to-the-antenna (FTTA) solutions offer a wide range of options to deliver fiber and power to remote radio units (RRUs). Hybrid options carry fiber and power in a single trunk run, saving space and installation time, while separate power and fiber gives a flexible option for basic connectivity. Our HELIAX FiberFeed portfolio includes:

- **Hybrid pendant**: An advanced plug-and-play solution using a low-profile breakout terminal with hybrid ports that reduces complexity, saves space, and maximizes speed of deployment.
- **Hybrid direct**: A plug-and-play solution using an integrated assembly with pre-attached hybrid cable legs that saves space and reduces installation time.
- **Standard hybrid**: A hybrid solution with flexibility where a junction box is desired.
- **Individual hybrid sector**: A hybrid solution that uses individual hybrid runs for each sector from the base station, which saves space and installation time.
- **Discrete**: A separate power and fiber solution that provides basic connectivity for upgrading existing FTTA architecture on towers and rooftops.

**POWER SOLUTIONS**

**PowerShift™ intelligent plug-and-play dc power supply**

PowerShift™ is the industry’s first intelligent, plug-and-play dc power supply, designed to optimize electrical draw by adjusting voltage dynamically to match your exact RRU power requirements, eliminating the need for a tower-top converter. Whether you’re adding or replacing RRUs, building new macro sites or deploying small cells, PowerShift helps you:

- Optimize energy usage costs
- Simplify installation
- Expand cable lengths and standardize cable sizes
- Reduce CapEx and OpEx

PowerShift also increases the amount of time your RRUs can run on battery backup, allowing your site to stay active up to 30 percent longer in a power outage.

**COMBINING SOLUTIONS**

Overcome interference issues caused by multiple networks operating among congested airways with CommScope’s combining systems. Our exclusive patent-pending PIM testing exceeds standard industry tests to help you build highly efficient low-PIM networks that provide consistently superb performance. Choose from highly integrated options that enable you to share antennas and feeders without degrading RF performance and:

- Expedite the rollout of new services with higher efficiency
- Save space while reducing weight and wind load
- Reduce CapEx and OpEx
- Deliver excellent PIM performance

CommScope combining solutions also simplify implementation for many applications—conventional, those where remote radio heads are used, higher-order MIMO, and those with one band or multiple bands.

**BEST PRACTICES FOR MODERNIZING CELL SITES**

As network complexity grows, tower loads increase, and the effects of passive intermodulation (PIM) and other interference become more critical, following best practices can help ensure your updated network will deliver optimal performance with minimal interference.

*To get the whole story, download our free LTE Best Practices eBook.*
BACKHAUL CONNECTIVITY SOLUTIONS

Microwave backhaul

CommScope offers a range of wireless backhaul solutions, from spectrum management and link planning to a complete range of point-to-point microwave antennas. Delivered with all the necessary connectivity accessories and available in extreme weather models, each antenna is guaranteed to work seamlessly across your network. In addition to meeting the intense data demands of today and tomorrow, CommScope backhaul solutions provide long-term cost savings, including:

- Reduced tower space
- Improved spectrum usage
- Decreased maintenance costs

Fiber backhaul

To keep pace with the demand for gigabits-per-second transmission capacity, mobile operators are increasingly using dedicated, direct fiber connectivity to build their backhaul networks. CommScope's complete, end-to-end RAN solutions enable mobile network operators to build robust, sustainable network infrastructure and reach revenue objectives faster. Our fiber backhaul connectivity solutions incorporate plug-and-play, add-as-you-grow modular technology to:

- Maximize deployment flexibility
- Simplify ordering and installation
- Lower total cost of ownership
COMPLETE INTEGRATED SOLUTION PACKAGES

Designed to simplify implementations at today’s complex cell sites, CommScope offers complete integrated solution packages for fast, efficient deployment from the bottom to the top of the tower.

METRO CELL CONCEALMENT SOLUTIONS

These fully integrated outdoor systems boost network capacity and service coverage while alleviating regional zoning and site acquisition issues. Customizable in various heights, power outputs, sectorizations and radomes, Metro Cell solutions deliver an aesthetically pleasing, low-profile presence that integrates cleanly into city landscapes with a minimal footprint. Available in a variety of modular designs for the ultimate in flexibility, CommScope Metro Cell concealment solutions come factory integrated, tested and ready for installation.

- Increases capacity and coverage with minimal aesthetic impact
- Minimizes zoning and other community approval challenges
- Suitable for a variety of applications, including monopoles, street poles, rooftops, flagpoles and radome/headframe sections
- Available with independent RET on high and low bands
- New PoleCab solution offers a combined cabinet and pole in one unit

INTEGRATED PLATFORM DEPLOYMENT SOLUTION (IPDS)

CommScope’s IPDS is a fully assembled bottom-of-the-tower solution that delivers a factory-integrated, turn-up-ready equipment base that can be off the truck, installed and running in as little as four hours.

- Factory assembled and tested
- Arrives and installs as a single unit to simplify installation
- Standardizes configurations and speeds up deployments
- Comes with a range of options, from cabinets and generators to telco and load centers
- Reduces CapEx and OpEx

Watch the video.

CommScope will help you optimize your network investment now and in the future. Contact CommScope to learn more.
Partner with CommScope—the trusted global RF path expert

Learn more.

Trust is important to CommScope. We build strong partnerships with you, so you know you can count on us to seamlessly modernize your network. CommScope is the only company to offer a complete, end-to-end RF path solution—everything you need to build complete, high-performing networks, with these unique advantages:

- Global reach, with more than 30 facilities for manufacturing, R&D and distribution
- More than 40 years of experience meeting the most demanding customer needs and deployment environments
- A commitment to innovation, with an annual R&D investment of more than $200 million and nearly 10,000 patents and pending applications
- Our PartnerPRO® Network of certified installers, consultants and integrators who are trained and experienced in designing and deploying CommScope wireless network solutions

By partnering with CommScope, you’ll be able to optimize your network investment with innovative infrastructure solutions that deliver exceptional reliability and performance now and in the future. Contact CommScope to learn more.

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 have empowered customers in all regions of the world to anticipate what’s next and push the boundaries of what’s possible. Discover more at commscope.com