COMMSCOPE®

Secure the digital mission

Optimize analytics and intelligence with agile, real-time management

The stakes couldn't be higher

Public agencies are tasked with maintaining the safety and liberty of their citizens. To protect and preserve these rights, accurate, up-to-date information and instant communication are mission critical. The data center and building infrastructure you recommend must deliver airtight security, rock-solid availability and cost-efficient productivity that enable public officials to make smart strategic decisions in real time.

While each branch of the United States federal government follows a unique mission, mandates and standards, they share a handful of core challenges. Whether it's a civilian, defense or intelligence agency, budgets are tight, deadlines are rigorous and expectations are high. Complexity is a given, compliance is scrutinized and cybersecurity is mandatory.

In other words, when a country's national interests are on the line, mistakes and shortfalls simply aren't an option.

"A strong cybersecurity program is critical to ensuring mission success. Given the evolving threat landscape, it is imperative that we do everything in our power to ensure the security of government information and networks."

Tony Scott, Chief Information Officer, U.S. Office of Management and Budget Testimony before the Committee on Oversight and Government Reform, U.S. House of Representatives, April 22, 2015

Delivering the network infrastructure for NGA New Campus East, the second largest U.S. federal campus

When the U.S. Army Corps of Engineers (USACE) needed a secure cabling infrastructure to support the $1.46 billion construction of the National Geospatial-Intelligence Agency (NGA) East campus, project leaders sought out CommScope. At 2.4 million square feet, the campus is rivalled in size only by the Pentagon. As its integrated design-bid-build (IDBB) partner, CommScope worked with NGA and the prime contractor staff to create a customized zone cabling solution using a combination of:

- TeraSPEED® singlemode and OM3 fiber cabling
- Category 6 F/UTP copper cabling
- QWIK-II™ SC and keyed LC connectors
- Preterminated fiber and copper assemblies

The comprehensive solution met all mandatory security requirements, offering support for 8,500 personnel with room to expand by another 25 percent. Most importantly, **CommScope and its installation and distribution partners completed the entire initiative—design, deployment, testing and commissioning—a full six months ahead of schedule.**

Isn't there an easier way?

Yes, there is. It's called the **CommScope Federal Solutions Team**, a specialized unit comprising experts with decades of experience working with military, intelligence and civilian service IT teams within a variety of U.S. agencies. We understand the complex pressures of federal initiatives, the flexibility required to adapt as objectives evolve, and the long-term perspective and commitment needed to ensure total success.

The **Federal Solutions Team** actively engages with integrators serving all branches of the U.S. government—providing turnkey network infrastructure solutions that help you design, deploy, modernize and manage a secure infrastructure.

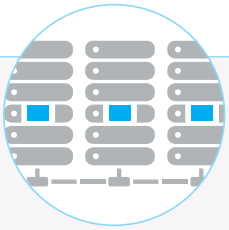
This expert team is backed by CommScope, the world's foremost wired and wireless network infrastructure provider. CommScope engineers guided the arrival of coaxial, twisted-pair and fiber-optic cabling technology. We've written the industry standards for every major network evolution. We're pioneering robust, agile data center solutions. Decades of real-world technical experience and an agile global supply chain with boots on the ground in more than 100 countries offer you practical, actionable insights you can draw on to make smarter business decisions.

We were first

A legacy of irreplaceable expertise

CommScope was there at the beginning, creating:

- **The first data centers**
- **The first wireless networks**
- **The first intelligent buildings**
- **The first cable TV infrastructure**



Tasked with defending the free world, U.S. Strategic Command relies on CommScope

When finished in 2017, the new headquarters for the U.S. Strategic Command, near Omaha, NE, will measure 916,000 square feet and cost approximately $1.2 billion. It will house more than 3,500 military and civilian employees whose singular purpose is to anticipate and prevent any and all serious threats facing the United States and its allies.

The facility's network infrastructure is mission critical, so project planners called on a proven and trusted partner: CommScope. The lead designer for the planning team had partnered with CommScope on large DoD projects in the past and knew they would deliver a world-class infrastructure solution. He also valued the technical support CommScope could provide during the design and implementation phases.

CommScope's job was to design and install the physical network infrastructure needed to carry massive amounts of highly sensitive data throughout the facility—including one of the world's most secure data centers.

Challenges included designing unique cabling assemblies to differentiate and maintain security for multi-agency networks within the building. Factory-preterminated cables accelerated the installation process, drove down labor costs, reduced variability in field terminations and increased copper and fiber performance.

Deliver on your contract

The agencies comprising the United States government are exceptionally diverse. The wide variety of global, national, state and local entities—each with its own culture, jargon, politics, budgets, rules and policies—means there is no one-size-fits-all solution. To support such diversity, we offer client-specific solutions for three types of core government customers.

Civilian federal agencies

The structured cabling solutions LazrSPEED®, TeraSPEED and GigaSPEED® enable civilian agencies like the departments of Energy, Justice, and Commerce to invest in critical infrastructure initiatives and **achieve greater operational efficiencies** that positively impact local communities and businesses across the country.

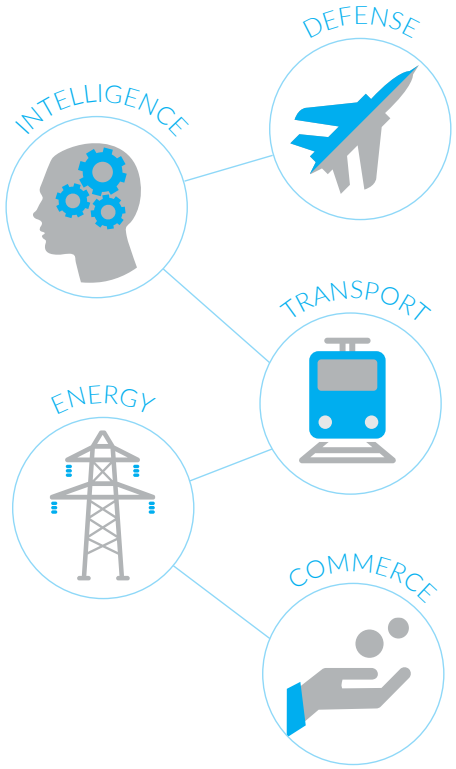
imVision® intelligent infrastructure management, ION®-E unified wireless infrastructure and PON solutions help **stimulate economic prosperity**, fuel job growth, develop new communities and generate more taxable revenue.

The intelligence community

Enterprise solutions like our imVision AIM solution help government agencies **keep Americans safe** and our data secure. ION-E and PON solutions address the opportunity to **engage in sustainable (GREEN/LEED) initiatives** that drive down energy costs while enhancing operational efficiencies and minimizing the environmental impact.

The Department of Defense (DoD)

In the theater of war, smarter, faster and more secure technology can mean the difference between life and death, victory and defeat. Actionable, real-time situational awareness saves lives. High-security, protected solutions like ION-E, imVision and structured cabling enable agencies to **rapidly access, accurately assess and quickly share strategic and tactical information** in support of the modern warfighter.



Core Capabilities

- Proven track record on complex, high-profile, high-value projects
- Pre-cleared technicians for sensitive projects (DoD)
- Expert local, regional and global field sales teams
- Convenient regional executive briefing centers
- Agility in design, testing, deployment and support
- U.S. and overseas manufacturing with a global supply chain

Designed for simplicity, efficiency and secure capacity

You need to squeeze every ounce of network performance from a tight budget. That's why so many high-security networks are built with cabling, connectivity and infrastructure management solutions from CommScope. Whether you need to securely increase bandwidth, maximize capacity, boost performance, reduce energy consumption or simplify a deployment, CommScope can help you get the job done right.

Copper and fiber core solutions

CommScope has the right fiber or copper cabling and connectivity solution for any infrastructure application. Trusted brands include InstaPATCH® preterminated modular fiber; GigaSPEED X10D (Category 6_A) and XL (Category 6) twisted pair cabling TeraSPEED OS2 and LazrSPEED 300 (OM3), 550 (OM4) and WideBand OM5 multimode fibers and SECURE color-coded and keyed fiber connectors, adapters and cable assemblies.

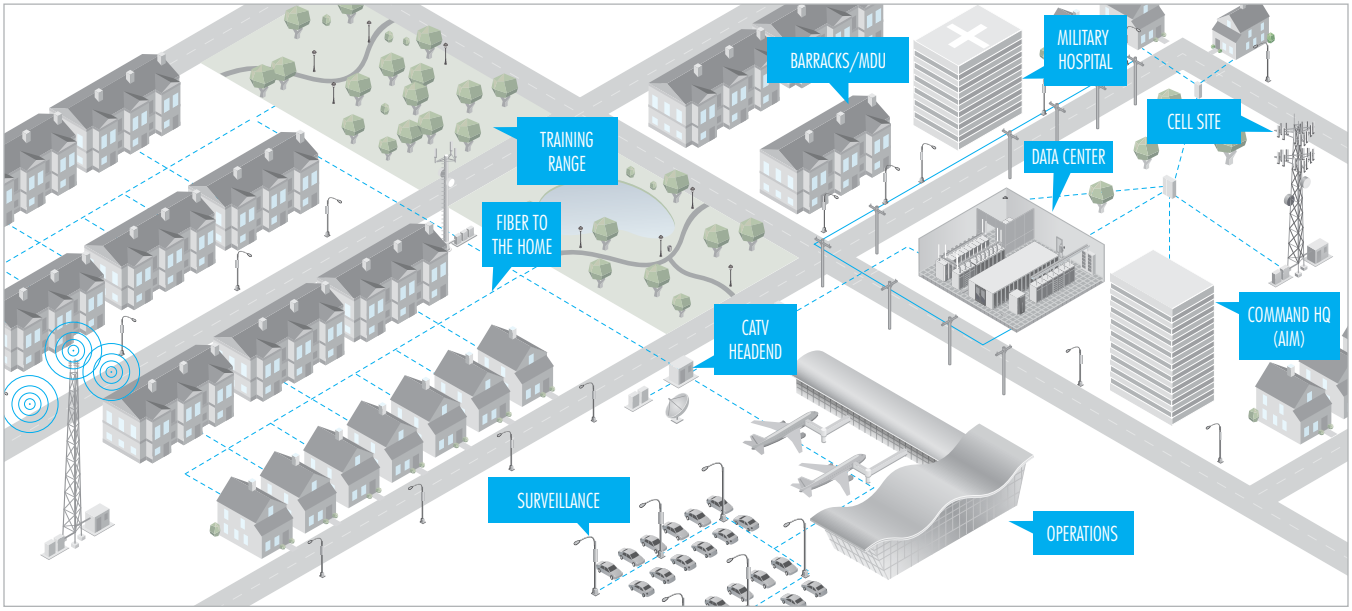
With tomorrow's go-to solutions like LazrSPEED WideBand OM5 multimode fiber, CommScope supports your missions and requirements as they evolve. As cabling standards progress—10G, 40G, 100G and beyond—you can rest assured, knowing you have the solutions you need today and the capabilities to grow your network into tomorrow.

Powered fiber system

Our innovative powered fiber system improves and simplifies the entire process of installing, powering, and operating network devices—wherever you need them. Consisting of a hybrid cable, PoE extender, cable/fiber management, and universal power supply, these solutions help you better manage your fiber and power transmission while providing increased safety and carrier-grade overload protection. For applications like remote perimeter security, where the distance to the IP device is beyond the reach of copper, a low-voltage powered fiber system can span up to 1.5 kilometers, making it an ideal solution. It also provides the high-bandwidth capacity and flexibility of design needed to support the internet of things.

Automated infrastructure management (AIM)

CommScope's imVision AIM solution—provides real-time visibility of your physical layer. Using intelligent cabling and connectors, AIM automatically maps, monitors and updates the location and status of every network connection and connected device. This is MACs made easy—freeing you up to optimize available capacity while maintaining ideal network efficiency. With true real-time monitoring down to the physical layer, AIM adds critical situational awareness of your most vital assets. Every connection point is automatically tracked and documented, so your connectivity database is always up to date and your cabling plant is able to respond to mission requirements as they change.



Wired, wireless or converged: you decide

Structured cabling solutions

Our proven SYSTIMAX® and Uniprise® connectivity solutions include GigaSPEED Category 6 and 6A copper cabling systems, LazrSPEED OM3 and OM4 multimode fibers, and TeraSPEED zero water peak singlemode fibers. Preterminated options allow customization when rapid installation is needed. Additional security is provided with shielded copper and keyed fiber options. Outside plant solutions are also available for campus and base applications.

Intelligent infrastructure solutions

Accessed via an easy-to-use web-based interface, the imVision AIM platform combines intelligent hardware and software to provide exceptional insight and real-time control over the entire physical connectivity layer—cabling, patching, switch ports and end devices.

In-building wireless systems (IBW)

Our portfolio of wireless solutions represents the pinnacle of quality coverage and capacity—from precise DAS systems to our ground breaking ION-E unified wireless infrastructure.

Passive optical networks (PON)

PON architecture provides an all fiber based solution as opposed to the traditional network architecture. PON improves performance while reducing initial-build and day-two operating costs. This makes it ideal for supporting triple-play architectures (data, video and voice). PON networks offer inherent digital security and can be physically secured with ease. CommScope has the passive portfolio to support this architecture.

CommScope helps Aviat Networks blanket Papua New Guinea with robust wireless service

Based in Santa Clara, CA, Aviat Networks has installed roughly 750,000 microwave networking solutions in more than 100 countries over the past 50 years. When Aviat needed an innovative deployment strategy to deploy a high-capacity backbone network on the top of 11,634-foot Mt. Otto, they partnered with CommScope. Andrew HSX-series microwave antennas were air-lifted via helicopter to the mountain's peak.

- **Massive capacity optimization** was achieved by transmitting over eight channels in both vertical and horizontal polarizations using XPIC functionality with link distances of up to 56 miles
- **Excellent propagation** conditions, XPIC, adaptive modulation and an all-Ethernet architecture allowed a huge capacity of up to 4 Gbps
- **Spatial diversity configurations** with two antennas were used at each end of the link to compensate for the curvature of the Earth
- **Exceptional antenna reliability** means Aviat expects zero return visits for the next decade
- **Spectrum reuse:** Antennas employ high-quality radiation pattern envelopes for side lobe suppression that maximize available spectrum
- **Power:** Solar panels and on-site generators provide the necessary power

The right technologies for your strategy

The award-winning CommScope portfolio of enterprise solutions covers a wide variety of infrastructure applications and venues. Compare the offerings below to decide which solution is ideal for your business.

CommScope's solutions	Your environments	Specific applications	Features and benefits
Core fiber/copper Comprehensive portfolio of fiber and copper cabling, connectors, adapters, panels and enclosures for 1G–100G applications	• Data centers • Enterprise networks • Campus/base deployment • In-building wireless • Intelligent buildings	• Data centers • Barracks • Command centers	• Fast, easy migration to higher speeds • Improved application speeds and performance • Pretested, guaranteed performance via global ISO/9001 manufacturing network • Single-source design, manufacturing and support ensures end-to-end project accountability and success
Powered fiber system Hybrid cable, PoE extender and universal power supply	• Cell site base station • Campus or military base • Airports • Sports and recreational venues	• Remote devices requiring long runs of power/data cabling: small cells, Wi-Fi hotspots and HD cameras	• Powers networked devices at 30x the distance of CAT cable • Integrated power management and media conversion • No special installation tools needed • Easy-peel design for fast access to cables • Three levels of electrical protection • Automatically corrects for voltage drop over distance
IBW/ION-E Unified wireless infrastructure	• Data centers • High-rise buildings • Shopping malls • Museums/casinos • Military bases • Hospitals	• In-building wireless • Wi-Fi and security camera coverage extension via UAP	• Frequency agnostic • Runs over an IT network • Economical Category 6A and fiber cable • Supports a multicarrier environment
imVision intelligent, automated infrastructure management	• Data centers • Intelligent buildings • Outside plant fiber • Campus networks	• Secure, central physical layer and device tracking • Asset management (MAC) • Manage data center, building and campus OSP connectivity from a single platform	• Physical layer insight and control • Efficiently improve uptime • Reduce maintenance costs • Compliance with auditing mandates and requirements
PON (EPON/ GPON) End-to-end FTTx architectures for transmitting voice, data and video\	• Intelligent buildings • Military bases • Campus networks • Large facilities	• Voice, data and video systems run over a single network • DAS systems can use spare optical fiber in PON cabling • Run Wi-Fi access points over PON • Eliminate IDFs and pathway size/quantity	• Reduces CapEx for cabling, Ethernet switches, cooling, power and backup power equipment • Converges all network elements onto singlemode optical fiber • Creates central point of control; core and desktop are the only active components • Reduces OpEx for power, software licenses and cooling • 128-bit AES encryption
Preterminated cabling Proven SYSTIMAX and Uniprise connectivity	• Buildings and facilities • Data centers	• Moves, adds and changes • Data center SAN and IP network • Suitable for traditional three-tier or spine/leaf architecture	• Copper and fiber options • Reduces labor and installation time • No waste or excess materials • Higher density reduces space by 50% • Factory terminated and tested for quality performance and system assurance

The PartnerPRO® Network: Local insight, global expertise

PartnerPRO® NETWORK

At the heart of CommScope's global expertise and resources is its PartnerPRO® Network—one of the world's most robust partner networks. Featuring more than 2,300 active partners in 88 countries, the PartnerPRO Network consists of distributors, installers, consultants, integrators, specialists and alliance partners trained and authorized by CommScope to deliver the company's broad range of building and data center infrastructure solutions.

Achieve your digital mission

To learn more about our federal solutions, email commscopefederal@commscope.com.

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.

COMMSCOPE®

commscope.com

Visit our website or contact your local CommScope representative for more information.

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