

THE INSATIABLE DEMAND FOR FIBER

And Why Allocation with a Distributor is the Right Choice for your Business



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COMSTAR SUPPLY



SUMMARY

The fiber-optic cable industry has soared since the 2009 American Recovery and Reinvestment Act. This legislature included large investments for domestic upgrades in broadband infrastructure which helped push the telecommunications industry to reach new heights.

During this time, consumer and business appetite for high-speed connectivity has continued to grow. Just look at your phone and think about how you personally use apps, video, and Internet access in your daily lives. Count how many devices in your house are now connected to the Internet (phones, computers, tablets, gaming consoles, etc.) and how many will be in the near future (refrigerator, watches, electricity, even full homes). Now multiply that by a thousand-fold as you begin to think about how important connectivity is to every department within a company.

Regardless of the so-called "Internet of Things" (IOT) in use, all of the functions and communication are eventually delivered over fiber optics. Fiber-optic cables are used to transmit large volumes of data across long distances. This technology is often considered superior to other types of cables that are used to connect consumers to cable network services, internet providers, wired telecommunications and wireless carrier data centers to mobile cell towers (for mobile phone service). Fiber-optic cable is considered superior, since it can transmit a larger amount of data more quickly than previous types of technology.¹

But with this demand comes increasing pressure on fiber optics manufacturers. Over the last 10 years, a number of factors have contributed to production delays and delivery issues that could impact your bottom line by not having the right resources in place to complete a job. Today, having the necessary fiber for technology companies, communication carriers, and utility subcontractors alike, remains a challenge.

¹IBISWorld Industry Report
OD5660, "Fiber-Optic Cable
Manufacturing," May 2015.

THE LEADING DRIVERS FOR FIBER

Let's first take a deeper dive and explore some of the main drivers today for fiber optics.

CONNECTIVITY IS PLAYING CATCH-UP TO WIRELESS TECHNOLOGY DEMAND

Wireless carriers and smartphone manufacturers are currently building to 5G, the "so-called" next generation of mobile Internet. 5G will not only power our cell phones, but also the IOT, which will even allow your refrigerator to send you an email when its filter needs replacing.

According to Juniper Research, the number of IOT devices will jump from 13.4 in 2015 to more than 38.5 billion in 2020. Most of this increase will rely on wireless broadband connectivity that is currently not able to support all of these devices. That's where fiber optics will come into play. Not only are wireless carriers increasing speeds and feeds by upgrading existing cell backhaul and building new wireless networks – even dark fiber to the tower – but also small cell and DAS for densely populated areas.

THE TECH BEHEMOTHS STAKING THEIR CLAIM TO THE LAST MILE

Google continues to build out Google Fiber in an effort to increase consumer Internet speeds in select areas of

the country. By 2015, they had completed 12 cities of the original 34 targeted and are rolling out new networks every year. Apple, Facebook, Microsoft, and Yahoo! have all been rumored to provide last-mile Internet access using a number of different technologies.

MORE MUNICIPAL OWNERSHIP OF NETWORKS

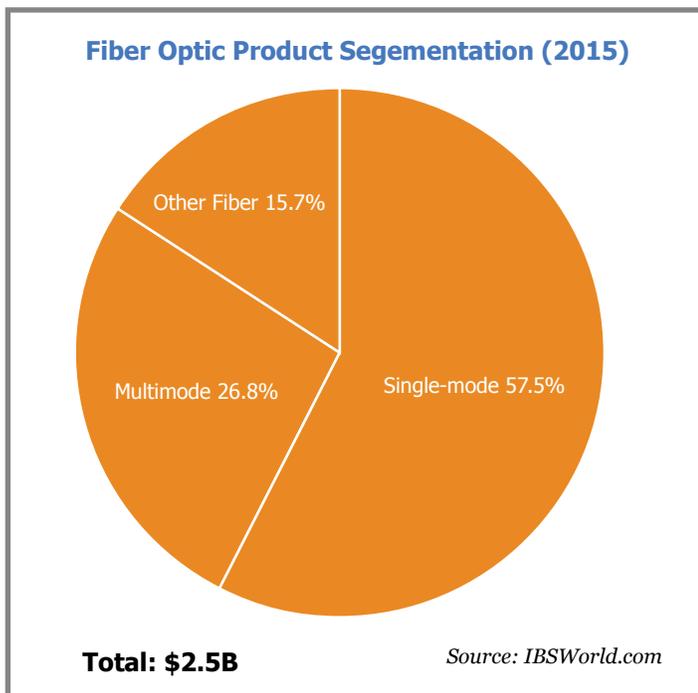
Despite the private sector making investments to dramatically expand broadband access in the U.S., challenges still remain. Many markets remain unserved or underserved. Others don't benefit from the kind of competition that drives down costs and improves quality. To help fill the void, hundreds of towns and cities around the country have developed their own locally-owned networks.



Municipal fiber-to-the-home networks are becoming more prominent because of increased demand for modern audio and video applications, which are increasing bandwidth requirements by 40% per year. Over the past few years, these municipal networks have emerged as a critical tool for increasing access, encouraging competition, fostering consumer choice, and driving local and regional economic development.

DATA CENTER CONSTRUCTION AND REFURBISHING HAVE ACCELERATED

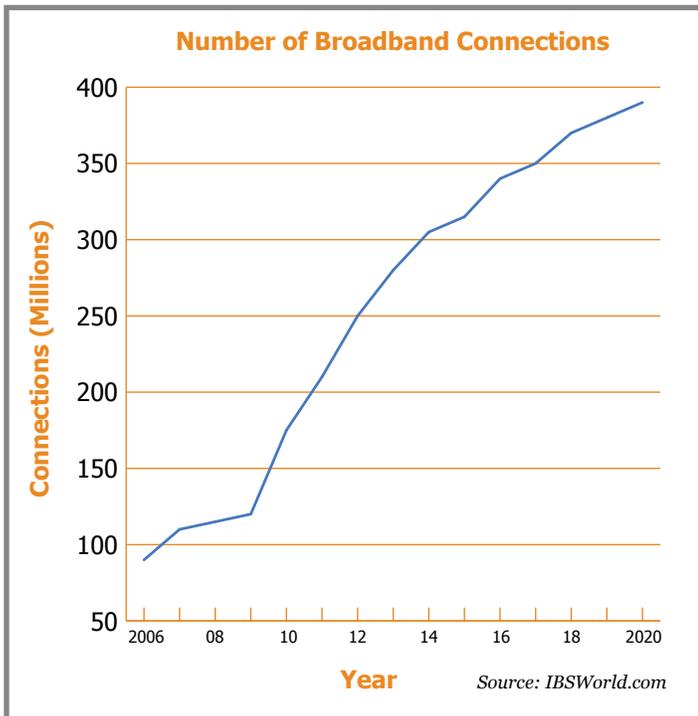
According to TechNavio, the global data center market is forecast to increase at 10.7% compound annual growth rate through 2016. A key element of its success, no matter the market, is a strong facility infrastructure. A DLA Piper survey found that infrastructure improvements have become somewhat of an "arms race" for technology organizations, and the need for high count, diverse fiber connectivity is a necessity.



THE LEADING DRIVERS OF FIBER (CONTINUED)

CAF PHASE II IS IN FULL SWING

The Federal Communications Commission has secured carriers' commitment to build out broadband to nearly 7.3 million rural consumers in 45 states and one U.S. territory over the next 6 years. For 2016, \$1.7 billion in funds was released toward these efforts. This year marks just the beginning to build to minimum speed requirements of 10Mbps/1Mbps.



TRADITIONAL CARRIERS AND DARK FIBER PROVIDERS CONTINUE TO PUSH THE BENEFITS OF FIBER TO THE LAST MILE

The telecommunication carrier industry is included in many of the drivers above but also deserves special mention. A number of providers are building Small Cell Sites and Cell Backhaul Builds for the wireless carriers, as well as providing the fiber density to many of the data centers. Regardless of the application, all of them are in a very aggressive push to increase their fiber route miles and position themselves better in every market that their networks touch.

FIBER TO THE X CONTINUES TO GROW

According to the White House, over the last seven years, the U.S. has experienced a tripling of the average home Internet speed, covering 98% of Americans with 4G/LTE mobile broadband, and doubling the number of schools connected to high-speed Internet.

Despite these statistics, cable operators and start-up Internet providers continue to build out fiber facilities to the home. The Fiber to the Home (FTTH) Council Americas has released the results of a survey by RVA, LLC showing that fiber deployments in the U.S. grew 13 percent in 2015. Many are still aggressively expanding their networks, pushing fiber past more than 26 million homes with more than half of the 1,000 FTTH providers in North America expected to be offering a Gigabit within 5 years.



THE NEED FOR FIBER ALLOCATION

With these market drivers increasing demand, the next two years will ensure long lead times for fiber. Other factors – such as fiber or glass shortages, manufacturer slowdowns or system-wide upgrades, or other mitigating circumstances – will also influence production.

If you or your company is engaged in any of the activities described above, proper planning is necessary so that you have the right equipment and resources at the right time, and at the right locations, to maximize time and revenue. The key to combat any mitigating factors for carriers and contractors alike is to be planning for your fiber needs 12-18 months in advance. Allocating fiber with a well-positioned distributor should be your

number one priority. This would eliminate price volatility, lead time fluctuations, and supplier uncertainty.

Comstar Supply is well positioned with fiber and all of the major product lines that accompany installation. It has created a customized solution that takes the guesswork out of your outside plant needs and allows for a smooth transition from planning to construction. We work with our customers to tailor a system that allows us to distribute fiber facilities monthly based on your needs, while allowing for additions or subtractions on your orders. This arrangement not only provides the security of having your most critical resource (fiber) but also allows flexibility regardless of market conditions.



ABOUT COMSTAR SUPPLY

Comstar Supply is a national distributor of outside plant product and expertise for the telecommunications and utility industries. Since its founding in 1994, the company has built an extensive inventory from industry-leading suppliers to help carriers and contractors deliver high-speed broadband and power networks. Through its facilities in Philadelphia and Raleigh, the company serves a diverse customer base including contractors, broadband and electric utilities, transportation, and government entities.

With more than 20 years of experience, we've learned that the most important secret to our success is providing a customer experience like no other. Our dedicated employee base provides outstanding customer satisfaction, unique attention to detail, and a focus on making it easier for customers to work with us.

The company has built an experienced management team with extensive telecom and OSP knowledge in distribution, manufacturing, marketing and customer care to support its end-user customers. With a goal of providing the communications industry with the necessary materials to successfully complete projects in a timely and cost-effective manner, Comstar Supply is uniquely positioned as a true distribution partner.

A certified, woman-owned business, we invite you to visit us at www.comstarsupply.com to learn how we will go the last mile to power your business.