



CORNING

Is your network ready for what's next?

Every day brings new technology breakthroughs. Is your network ready to meet changing customer expectations? Evolving your network to stay ahead of growing demand can be a challenge, but we're here to support you every step of the way. Our experts can help you create a clear copper-to-fiber migration strategy, and help you see it through, to put you on a path to long-term success.

Evolve your network, transform the world.

FIBER OPTICS have significant operational advantages over copper networks, including ...



LOW ATTENUATION

Signal loss, or attenuation, for copper cables is far more significant than fiber optics, with copper losing 94% of its signal strength over 100 meters vs. **3% for fiber**



VIRTUALLY NO CROSS TALK

Cross talk and other noise interference factors like **EMI/RFI** impact copper and degrade performance, but **fiber is virtually immune to them**



NEARLY UNTAPPABLE

Copper cables can be tapped easily, posing security risks, while it's **almost impossible to tap fiber**



MORE RESILIENT

Fiber is more resilient than copper and provides **pull strength of 100 to 200 pounds** compared to 25 pounds for copper



STRONG

A 2 mm diameter optical fiber would be strong enough to **support the weight of a car**



CLEAR

A single strand of fiber is **40,000x clearer than a diamond**



FIELD TESTED

Over **1 billion km of optical fiber** have been **deployed**, enough to travel around the world **25,000x**



HIGH-QUALITY ULTRA-BROADBAND

is required in today's competitive broadband market, and broadband service providers who deliver it efficiently position themselves for long-term success ...



ECONOMY OF SCALE

Fiber broadband is on the rise globally, up 23% between 2017 and 2018, while copper broadband is in decline, down 7%, with significant economy-of-scale implications for broadband providers



REDUCED OPEX

Reducing OpEx is critical for any service provider, given OpEx can in some cases make up 85% of the total cost of ownership for an access network



HIGHER REVENUE

One study found FTTH average revenue per user (ARPU) is 46% higher than DSL ARPU

FIBER INFRASTRUCTURE brings more to the table than just lower operating costs ... much more. When compared with other access technologies, fiber helps prepare a community for the future.



SMART CITIES

The presence of fiber infrastructure is critical for important smart city and 5G initiatives. In communities with fewer than 50K residents, smart city initiatives were present nearly 50% of the time when fiber infrastructure is present, vs. only 5% when no fiber is present

5G

SMART GROWTH

5G will fuel significant economic growth, and communities that lack it will be at a disadvantage. Fiber-fed small cells help form the backbone of 5G, and 60% of communities who have FTTH deployed are already deploying small cells today, compared to only 33% of communities where no FTTH is deployed



SMART GRID

FTTH powers the smart grid, providing tremendous benefits to a community. EPB of Chattanooga powers its smart grid off of a FTTH deployment and has seen a 50% reduction in power outages, saving its membership \$50M per year

Sources

A Comparative Analysis of the Differences Between Fiber Optic and Copper Cables in Communication System

worldresearchlibrary.org/up_proc/pdf/43-143737728041-43.pdf

Point Topic

point-topic.com/free-analysis/world-broadband-statistics-q1-2018/

Cost vs. Reliability Performance Study of Fiber Access Network Architectures Academic White paper

pdfs.semanticscholar.org/297a/704dbb0eff3f0bb1a4959d917d632fdda82c.pdf

Deloitte Report – Communications infrastructure upgrade: The need for deep fiber

deloitte.com/content/dam/Deloitte/us/Documents/technology-media-telecommunications/us-tmt-5GReady-the-need-for-deep-fiber-pov.pdf

Techno-Economic Model for Broadband Copper Access Life Academic White Paper

aaltodoc.aalto.fi/bitstream/handle/123456789/8777/master_Holmstr%C3%B6m_Jasmine_2013.pdf?sequence=1&isAllowed=y

North American Fiber Optic Broadband Research

RVA LLC

Electric Co-ops: The Answer to Rural Deployments

FiberConnect Conference 2018

Diffraction Analysis – Successful Strategies for FTTH Operators

nbnco.com.au/content/dam/nbnco/documents/market-perspectives-july-2012.pdf

The Evolution of Optical Fiber

corning.com/media/worldwide/global/documents/evolution_of_optical_fiber.pdf

Corning's Optical Fiber Educational Resources

corning.com/worldwide/en/products/communication-networks/products/fiber/optical-fiber-basics/lesson-in-a-box.html

The logo consists of a solid blue square with the word "CORNING" written in white, uppercase, serif font, centered within the square.

CORNING

Corning Optical Communications LLC • PO Box 489 • Hickory, NC 28603-0489 USA
800-743-2675 • FAX: 828-325-5060 • International: +1-828-901-5000 • www.corning.com/opcomm

Corning Optical Communications reserves the right to improve, enhance, and modify the features and specifications of Corning Optical Communications products without prior notification. A complete listing of the trademarks of Corning Optical Communications is available at www.corning.com/opcomm/trademarks. All other trademarks are the properties of their respective owners. Corning Optical Communications is ISO 9001 certified. © 2019 Corning Optical Communications. All rights reserved. CRR-940-AEN / January 2019