

## Committing to Sustainability Through Fiber

Fiber's contribution to global sustainability is having a rippling effect on food and water supplies, education and smart-city applications.

By Deborah Kish / *Fiber Broadband Association*

**F**iber internet service providers and manufacturers across the U.S. have been building their strategies toward sustainability since as early as 2015. Much like any other large-scale technology, telecommunications technology is historically made up of physical machinery from the early days of “step switches” that evolved to Class 4 and 5 switches, routers, gateways and a litany of other physically networked infrastructure that make communications possible.

The evolution from hardware-based to software-based networks began in the early 2000s. That was a step toward energy efficiency, lower carbon emissions, a smaller eco-footprint, and the use of more environmentally friendly materials. As technology evolved, so did environmental, social and governance (ESG) strategies. However, one type of network infrastructure has always been sustainable: fiber optics.

And it's not just about clean energy. Fiber's contribution to global sustainability goes above and beyond other broadband technologies because of its unlimited capacity, reliability and societal benefits.

### HEALTH, HUMANITY AND H2O

People don't typically think of technology as having any connection to food, water and other necessities. Without farms, there wouldn't be food, and it's clear how hard farmers work to manage crops, livestock and day-to-day operations. The same goes for wastewater treatment plants, which depend on coordinating several moving parts to maintain proper, efficient operations. This becomes even more critical as housing developments in rural areas increase. Flushing more toilets means wastewater plants are working that much harder.

In medicine, specifically in telemedicine, doctors need technology to send and receive vital information about their patients quickly and reliably.

Fiber broadband is essential to the communications infrastructure in precision farming, wastewater treatment plant operations and telemedicine. Optical fiber helps farmers manage crops and livestock by monitoring and controlling the amount of feed, fertilizer and water across their farms. This saves time and money and reduces the water needed to maintain acres of fruits, vegetables

and pastures. In wastewater treatment plants, fiber plays a critical role in connecting communications equipment that monitors control units, security and surveillance cameras and fire-alarm systems critical to operations in the event of a failure. Without fiber broadband, doctors would not be able to quickly transmit and receive large amounts of data, including X-rays, patient records and diagnostic data, to provide diagnosis and treatment in emergencies.

### EDUCATION AND INNOVATION

Online learning started in the late 1980s and has become more mainstream. It gained significant momentum and reached an all-time high in 2020, when COVID-19 struck, and practically everything came to a screeching halt. To keep things moving, almost all learning was conducted online. Unfortunately for some, this proved to be a challenge, as the best options for broadband were not available to everyone, particularly people in rural areas.

Smart innovation connects technology with safety, drives better efficiency and provides more-reliable services. Smart cars that detect objects crossing their paths or fast-

approaching things stop in time before a collision occurs. Communication among vehicles, streetlights and public walkways is gaining momentum, creating a safer walking environment. Smart innovation also allows hospitals and public services, such as fire and police departments, to connect, resulting in faster response times. All of these things help improve and preserve lives.

None of this can happen reliably or at the needed speeds without all-fiber networks. The low latency and unlimited capacity of fiber broadband means it has the power and speed needed to transmit data that informs the communications systems of required action.

### INHERENTLY SUSTAINABLE

The societal benefits of fiber – health, safety, education, etc. – are clear. It is made of entirely sustainable materials,

Fiber is made of entirely sustainable materials, such as silicon dioxide commonly found in sand and rocks, and it requires less than 1 watt to send data more than 6 miles.

such as silicon dioxide commonly found in sand and rocks, and because fiber transmits data using light, it requires less energy (less than 1 watt to send data more than 6 miles), and reduces the release of greenhouse gas emissions.

Most service providers and technology suppliers are executing their ESG strategies well and reaching their goals. Those that are more advanced in contributing to greener technologies and better efficiency, and providing a safer, more eco-friendly daily life, are

the businesses connected directly to fiber. ❖

*Deborah Kish is the vice president of research and workforce development for the Fiber Broadband Association.*



## PAY AS YOU GROW WITH MDU!Click

FURUKAWA ELECTRIC GROUP

ofs  
A Furukawa Company



### On-Demand Fiber in the Building Solution

- Fiber to the Residence or Business
- Reduced first cost, expand to reach new subscriber

#### 1st Subscriber:

- Slimbox® Flex connected to EZ-Bend® M-Pack® Backbone Cable
- Color-coded fibers for easy mid-span access
- Single subscriber port, upgradable to serve 8 ports
- Compact size

#### 2 Connecting more subscribers: SlimBox Flex Indoor Splitter Module slides into the SlimBox Flex Module, to serve 8 subscribers

#### 3 SlimBox Flex Splitter Module

- Factory assembled with 1x4 or 1x8 splitter
- Quick tool free anchoring of drop cables
- Lid with lock system, pivoting adapters



### EZ!Connector or EZ-Fuse Connector

- Quick and easy field termination
- High optical performance (SC-APC)



### EZ-Bend 3.0mm Drop Cable

- Tight 2.5 mm bend radius
- Factory or field terminated



### InvisiLight® Solutions

- Surface mountable options from SlimBox to subscriber

WWW.OFSOPTICS.COM

Scan to learn more!

