

Major Breakthrough in Fiber Optic Communication



Overview

An international research team led by the Photonic Network Laboratory at the National Institute of Information and Communications Technology (NICT, President: TOKUDA Hideyuki Ph.), and including Sumitomo Electric Industries, Ltd. (Sumitomo Electric, President: INOUE Osamu) have set. Chinese researchers have made a major breakthrough in optical communications and 6G wireless technologies, taking the global lead in realizing cross-network convergence between fiber-optic and wireless communication systems. The independently developed fiber-wireless integrated converged. Achieved using a newly developed standard 19-core optical fiber, equivalent to 19 standard fibers, low loss across multiple wavelength bands, and the development of an optical amplification relay function compatible with this fiber. This is a major step to realize future long-distance. Japan sets new internet speed record at 125,000 GB/s, which is 4 million times faster than average U. Breakthrough uses 19-core optical fiber, matching current cable thickness but with 19x the capacity. Technology maintains speed over 1,120 miles, solving long-distance signal loss with. Using an optical processor to operate in the E- and S-band ranges, UK researchers hit a transfer rate of 301 terabits per second. Add Popular Science Adding us as a Preferred Source in Google by using this link indicates that you would like to see more of our content in Google News results. IEAC turns the light pattern into the cipher—opening a path to secure, high-throughput backbones for data-centre clusters, cloud services and future 6G cores.

Article Content

Web of Light: The Pioneers and Legacy of Fiber Optics

Web of Light: The Pioneers and Legacy of Fiber Optics Explore the fascinating history of fiber optics, its visionary pioneers, and breakthrough

Light Reading

Light Reading is the leading source of news analysis for communications industry professionals.

Historical Development of Fiber Optics: Tracing the History and ...

Discover the transformative journey of fiber optics technology, from its early experiments in the 19th century to its crucial role in modern telecommunications. Learn about key figures like John Tyndall

The Origin of Optical Fiber Products: How Light

From early light experiments to today's ultra-fast internet, optical fiber products have transformed how we communicate. As demand for speed grows,

2026 Top 8 Optical Fiber Cable Manufacturer in USA

2. Top 8 Optical Fiber Cable Manufacturer Corning Inc. – The Innovation Pioneer Since developing the first low-loss optical fiber in 1970,

Inside the breakthrough of fiber optic data transmission

Researchers from the National Institute of Information and Communications Technology in Japan, Aston University in the U.K. and Nokia Bell Labs in the U.S. have shattered data transmission

AWCC inaugurates Kabul-Mazar-Hairatan fiber optic

Afghan Wireless Communication Company (AWCC) on Monday inaugurated the Kabul-Mazar-e-Sharif and Mazar-Hairatan fiber optic network,

The History and Importance of Fiber Optic Technology

Additionally, the long lifespan and durability of fiber optic cables reduce the need for frequent replacements and minimize electronic waste. The

Fiber Optic Communication – History & Key Milestones

Fiber optic communication has revolutionized the way data is transmitted across the globe, enabling ultra-fast, reliable, and secure connectivity.

The Evolution of Optical Fiber: Scientific Stories Behind

From humble beginnings to a global communications powerhouse, optical fiber has evolved into the backbone of modern technology. But behind its

Fiber optics | Definition, Inventors, & Facts | Britannica

Fiber optics, the science of transmitting data, voice, and images by the passage of light through thin, transparent fibers. In telecommunications, fiber optic

How Fiber Optics Was Invented

Fiber optic communication methods and materials invented by them opened the door to the commercialization of fiber optics. From long-distance

Fiber Optics Breakthrough Promises Faster Internet

A new type of hollow optical fibre promises to boost the amount of data that can be carried in each glass strand, and to do so over longer distances. This

OFC 2026 Delivers a High-Impact Week Marked by Breakthrough ...

LOS ANGELES — March 20, 2026 — The 2026 Optical Fiber Communications Conference and Exhibition (OFC), the world's largest annual gathering for optical networking and communications

The History of Fiber Optics: From Glass Strands to High-Speed Internet

The breakthrough came in the 1960s when Arthur Schawlow and Charles Kao separately proposed the idea of using

The Evolution of Optical Fiber: Scientific Stories Behind

Researchers at the time, including scientists like Narinder Singh Kapany, who is often called the “Father of Fiber Optics,” started to experiment

The Development and Milestones of Optical Fibers—A

Stanford Optics is a leading high-performance optical cable solutions provider, trusted by industries worldwide. Focusing on quality, innovation, and

Top 7 Fiber Optic Companies: Market Share & Analyst

VMR Industry Intelligence: A evaluation of the top 7 fiber optic vendors. Featuring market share data, Proprietary Intelligence Scores (PIS), and

Microsoft's hollow core fiber delivers the lowest signal

Microsoft has achieved a breakthrough in the hollow core fiber technology, reducing data transmission loss to just 0.091 dB per kilometer, the

China transmits 1 tbps data over 750 miles with next-gen

In lab and field tests reported this week in National Science Review, a team led by Prof. Lilin Yi pushed one terabit per second—roughly 40 Ultra-HD

How Fiber Optic Transformed Global Connectivity | TheInfoPort

Lern more about how Fiber optic technology has transformed global connectivity, improved communication, and innovations in healthcare, industry, and space exploration.

Fiber optic researchers showcase speeds 4.5 million

Researchers from Aston University in the UK have successfully transmitted data across standard fiber optics at 301,000,000 megabits per

Japanese researchers shatter internet speed record with

The breakthrough, announced by Japan's National Institute of Information and Communications Technology (NICT), was presented at the 48th

World Record Achieved in Transmission Capacity and

The research of ultra-high-capacity transmission using coupled 19-core optical fibers and advanced optical amplification has greatly advanced the

10 Innovations That Led To The Invention Of Fiber

Many groundbreaking discoveries paved the way for modern fiber optic technology. To enable hyperscale connectivity and global fiber optic communications, a

China makes breakthrough in optical communications

Chinese researchers have made a major breakthrough in optical communications and 6G wireless technologies, taking the global lead in realizing

Data Delivery Rates 4.5 Million Times Faster Than

A new breakthrough in fiber optic technology has succeeded in sending data at an astonishing 4.5 million times faster than home broadband.

Contact Us

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