

Wireless communication can replace fiber optic communication



Overview

Wireless technology is only as strong as the fiber optic backbone that supports it. A new transceiver invented by electrical engineers at the University of California, Irvine boosts radio frequencies into 140-gigahertz territory, unlocking data speeds that rival those of physical fiber-optic cables and laying the groundwork for a transition to 6G and FutureG data transmission. Laser communication (often called Free-Space Optical or FSO communication) uses tightly focused light beams to transmit data through air or space. These links: Common uses: The table below summarizes the fundamental differences: Fiber optics can consistently deliver higher data rates over long. Irvine, Calif. But more often than not these promises have failed to have any meaningful impact at scale. But here's the truth: every single one of these wireless advancements depends on fiber.



Article Content

Oct 29, 2025

Google's New Photonic Taara Chip Could Replace Fiber

The Taara project by Google's X moonshot lab has introduced a photonic chip capable of transmitting data at speeds of 10 gigabits per second (Gbps) using beams of light, offering an ...

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Wireless technology is only as strong as the fiber optic backbone that supports it. Even the most advanced wireless networks, including 5G and Low-Earth Orbit (LEO) satellite systems,...

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Engineers invent wireless transceiver rivaling fiber-optic speed

A new silicon chip wireless transmitter developed by electrical engineers at UC Irvine enables data transmission speeds rivaling fiber optic cables at high energy efficiency.

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Google Fiber Blog: From Fiber to Airwaves: What Taara's Laser Links Can ...

Over four weeks, we tested a high-speed wireless link between two buildings, measuring its performance across a variety of weather conditions. Putting Taara to the Test. The trial ran from...

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Wireless Is Essential, But Fiber Remains the Future (For Now)

From Google Fiber to Starry, numerous companies have promised to use wireless technology as a supplement or even replacement for future-proof fiber. But more often than not these ...

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Recent trends in wireless and optical fiber communication

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Integrated photonics enabling ultra-wideband fibre-wireless ...

Here we present an ultra-wideband (UWB) integrated photonics scheme that facilitates fibre-wireless communication over a shared-bandwidth infrastructure.

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UC Irvine engineers invent wireless transceiver rivaling fiber-optic ...

A new silicon chip wireless transmitter developed by electrical engineers at UC Irvine enables data transmission speeds rivaling fiber optic cables at high energy efficiency.

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Explore whether laser-based communication can replace fiber optics. Compare performance, cost, reliability, and deployment scenarios in this expert B2B guide.

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