TGC Global
Communication
Services Division

TGC Global CSD
Optical Wireless Solutions

Contact TGC Global for more information on how we can serve your business and technology needs.

TGC Global Office Locations

Corporate Headquarters
45 Rockefeller Plaza
Suite #2000
New York, NY 10111, USA
T +1 212 332 1116
F +1 877 742 5079
info@tgc-global.com

London
Info.UK@tgc-global.com

Paris
Info.FR@tgc-global.com

Luxembourg
Info.LX@tgc-global.com

Algiers
Info.AL@tgc-global.com

1 800 736 1498
www.tgc-global.com

The Advantages of Free Space Optics

When realizing the vision of an all-optical network- and the ability to effectively transmit data over any distance- it is critical to consider those environments that may not require a layout of fiber optic cable. Free Space Optics, or Optical Wireless technologies, allow for the benefits of fiber optic communications and optical connectivity, without requiring fiber optic cable or spectrum licensing.

FSO is an optical data transmission system and like fiber optic cable, uses light to transmit a digital signal between two transceivers. However, instead of a glass strand the light is transmitted through the air (free space). FSO allows for optical bandwidth connections that can send and receive data, voice and video information through these invisible beams of light. This line of sight technology leverages low power infrared laser transceivers that can beam two-way data at gigabit-per-second rates.

FSO transceivers can also transmit and receive through windows, allowing for FSO systems to be mounted within buildings – reducing the need for roof space and permitting FSO equipment to reside in a very favorable environment.

FSO functions over distances of several kilometers, and as long as there is a clear line of sight between the source and the destination – and enough transmitter power – this type of communication is possible, providing the speed of fiber optics with the benefits of a wireless network.

The TGC Global Difference

TGC Global CSD has introduced Free Space Optic solutions to deploy at customer sites where cost savings, performance, rapid deployment, and security are critical factors. FSO freedom from licensing and regulation also translates into low start-up costs, quick installation and virtually unlimited bandwidth.

Who Deploys Free Space Optics

FSO technology can be leveraged in very specific environments with wireless communication needs.

- Campus Networks – Any size organization can leverage the benefits of FSO technology to connect buildings across a campus, allowing for access to an optical connection without laying down additional fiber optic cable.
- Connections between sites where it is very expensive or impossible to lay fiber optic cable.
- For temporary network connectivity needs (exhibitions and conventions).
- Disaster Recovery - High bandwidth links can be easily provided using portable FSO systems.
- High-speed wireless backup for fiber optic cable.
- Mobile wireless.
- Municipal and military installations.
- Hospitals, banks, and telecom organizations.

Leverage FSO Security

FSO is more secure than other wireless-based transmission technologies (such as Radio Frequency, or RF). FSO laser transmissions are invisible and narrow making them difficult to find and intercept, and they cannot be detected with spectrum analyzers or RF meters. FSO laser beams travel along a line of sight path that requires a matching FSO transceiver to complete the transmission, making interception extremely difficult. Additional security can be added through the use of encryption over the FSO connection.

Why Build an Optical Wireless Network?

- Offers unsurpassed reliability and high-speed connectivity.
- Can be installed globally, is easy to deploy, license-free and offers a fast ROI.
- To provide high-speed connections across campuses and into fiber networks.
- Easy to upgrade with an open interface supporting equipment from a variety of vendors, helping enterprises protect their investment in embedded telecommunications infrastructures.
- Requires no security software.
- Is immune to radio frequency interference or saturation.
- Can be deployed behind windows, eliminating the need for costly rooftop rights.

"We believe in the strength and advantage of deploying an all-optical network- giving our clients the speed, capacity, and flexibility they need to effectively send and receive critical data across any distance, and in any environment."

Mayande P. Gowon
President & TGC Global CSD Founder

TGC Global
A Technology Services Firm