



# CONNECTIVITY REIMAGINED TO MEET DENSITY DEMANDS

*The innovation story of  
PEACOC® technology*



In 2015, Go!Foton was awarded a US Patent for its unique improvement to Layer 1 optical connectivity. The innovation was coined “PEACOC,” reflective of both the inspiration of the invention and the descriptive objective, to create a Platform with Enhanced Access for Compact Optical Connectors. The principal feature involved a new approach to designing high-density optical patching products to ensure maximum usability as fiber density continues to increase and optical connectors continue to decrease in size. The Go!Foton engineers leaned into their physics expertise finding the right dimension to re-image fiber connectivity to meet these density demands while also making it easier for technicians, improving the speed of access and minimizing user-caused disruption.



# MINIATURIZATION HAS MADE PHYSICAL LAYER CONNECTIVITY INCREASINGLY DIFFICULT TO WORK WITH

In the communications market, the demand for higher bandwidth, faster speeds, increased security, and better reliability has been constant. And as the demand intensifies, fiber connectivity has been the answer. More and more fiber cables and connections are being deployed in networks to manage the recent explosion of AI applications and required data rates. However, to keep pace with demand, the push has been to include more and more connector ports in the same physical footprint patch panel. To support this, the product development approach had been primarily handled one way - miniaturization of optical connectors.

As the fiber optic communications industry has evolved, there are now approximately 100 different types of fiber connectors to ensure optimal optical performance in different applications, many designed specifically to help with space constraints as networks grow. While selling more varieties of small form-factor products may have been desirable for manufacturers, creating more and more SKUs with the latest affording premium prices, has not been viewed as favorable by the product users. Why? The size of human hands has not changed.

Increased miniaturization has made working with an immense amount of fiber cables, connections, and panels a challenge. The spaces are tight for technicians to access and maneuver connections without distributing adjacent fibers. Adult fingers are typically 16-20mm wide while the common LC connectors are ~4.5 x 5.5 mm (simplex). This makes working with connectors difficult for large or less dexterous hands.



**Figure 1: Adult hand holding a duplex LC connector**

The connector-style proliferation presented other challenges, too. The more connectivity variations introduced into the network over time complicated the management of the equipment and cabling. Attention to detail has become even more paramount. As networks grow, evolve, divest, or are acquired, technology is an archive of engineering styles. Over time, hybrid products that connect to different port types appeared. This meant engineers, network operators, and procurement professionals spent more time ensuring precise specs were noted when ordering, planning, and servicing networks.

## **DESIGNING HIGH DENSITY CONNECTIVITY WITHOUT COMPROMISING USABILITY**

The engineers at Go!Foton sought a new design approach for Layer 1 optical connectivity that accommodated higher connection density while improving technician access and also not adding cost. To achieve this, the team looked for that “additional dimension” and focused on design options outside of the connector itself, and in the context of the other dimensional aspects of the panel and its mechanics. They found a way to increase fiber density without sacrificing individual port access.

### **INTRODUCING PEACOC SPREADABLE ADAPTER TECHNOLOGY**

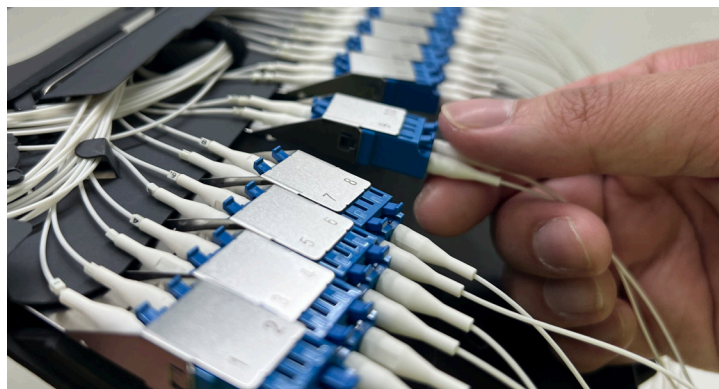
The results - an innovative system that enhances the management of fibers and improves the accessibility of optical connections within network panels, specifically designed for high-density environments such as data centers and telecommunications facilities. This patented technology addresses the challenges of organizing and handling fiber optic connections, aiming to improve operational and maintenance efficiencies while saving the space (and cost) needed for higher and higher fiber counts in these complex settings.



**Figure 2: The namesake inspiration: Like a peacock fans their feathers as needed, they consolidate compact and efficiently**

One of the standout features of this design is its ability to enable lateral movement of the connector, akin to sliding items away from each other in a crowded space to access a specific one. This capability allows technicians to isolate and work with individual connections without disturbing adjacent ports, significantly simplifying the process of managing high-density fiber optic networks.

The system supports both front and rear cable access from just one side of the panel, facilitating test, turn-up, and troubleshooting while maintaining stable connections throughout. This dual-access design is particularly advantageous in environments that require frequent reconfiguration (e.g. moves, adds, and changes), as it allows for safe and secure access without the need for expensive test gear or switching equipment.



**Figure 3: PEACOC Classic panel without the cover to show the spreadable adapters and sliding cassettes**

# **BUILDING ON THE LEGACY OF INNOVATION**

PEACOC technology has enabled telecommunication service providers, data center operators, and those building and maintaining networks to more efficiently and cost-effectively scale their optical backbone to support the unwavering growth in fiber port density. This growth has never been quicker and steeper than with the advent of AI and the high-capacity fiber counts and the new Very Small Form-Factor (VSFF) connectors in data centers. While PEACOC technology is now a decade old, its time is today - and tomorrow - providing a future proof path for high-density fiber management with easy access.

PEACOC has relieved many of the challenges in deploying and maintaining high-capacity fiber networks by providing a high-density connectivity solution with much easier access. Some of those risks include:

1. The difficulty in accessing and handling the compact optical connectors to perform fiber jumper management while also keeping the adjacent working connections secure
2. The continued drive towards even smaller form factors for optical connectors in the future
3. The potential for operator error by having visual and tactile confirmation of individual ports
4. Service interruptions, prolonged downtime, and inaccuracies during installation and maintenance operations

With PEACOC technology, each individual optical connection can be easily isolated from adjacent optical connections in a safe and accurate fashion.

## **OPTICAL CONNECTIVITY REIMAGINED**

Since 2015, Go!Foton has incorporated PEACOC technology into all its panels and terminals. And since the original patent, several improvements and advancements have been made. For example, the tapering of the adapter arm has increased the swing to 135 degrees, ensuring that as port density grows, there is still adequate isolation between ports.



Additionally, features and advancements have been incorporated into products featuring the technology, further augmenting the benefits:

- PEACOC Classic added protective covers to the adapters.
- PEACOC NEMO, introduced in 2021, is a simplified patch panel that utilizes adapters that pivot around a central axis. NEMO is also symmetric, providing the same easy access from both sides of the panel.
- PEACOC Enhanced View and Access (EVA) followed in 2023 and features an improved user interface with port numbering on the top and bottom of the adapters. In addition, the EVA cassettes are universal and therefore can be installed on either the left or right side of the panel, simplifying ordering, inventory management, and installation.
- PEACOC Multiport Mid-Span Terminal (MMT), also released in 2023, brought PEACOC technology to the outside plant, incorporating it into fiber terminals for easier field repairs and maintenance.
- PEACOC 360 was released in 2025 and includes 100' of built-in optical cordage, creating an infinitely adjustable cable assembly reducing cable inventory and reducing overall site survey and installation time by up to 25%.



**Figure 4: PEACOC 360 spooling patch panel: PEACOC technologies latest implementation with spreadable adapters and clearly identifiable port numbering**

The results are impressive, and the market agrees. Solutions featuring PEACOC technology have been adopted by Tier 1 Service Providers, AI Data Center Operators, and some of the largest OEMs.

With more than a decade of commercial deployments, spreadable adapter technology is proven. PEACOC complies with Telcordia Technologies GR-449, Issue 3, and Verizon TPR.9464 which involves rigorous requirements for the most demanding Telecom, CATV, and Data Center environments.

## **THE SKY IS THE LIMIT WHEN IMAGINING WHAT'S POSSIBLE AND CREATING WHAT'S NEXT**

The team at Go!Foton makes it a point to be active listeners, doing their best to put themselves in their customers' shoes. Expect the team to understand your experience from planning to support, and how the solution impacts all aspects of your business – from design, ease of ordering, installation, performance, inventory management, and servicing. There are many ways to solve problems and the story of PEACOC is one example of how “finding the right dimension” can accomplish just that. Go!Foton is committed to finding the best approach for you.





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**Innovator. Expert. Problem Solver.**

Based in the USA with teams around the world, Go!Foton is at the forefront of advanced optical and photonics innovation. We engineer solutions to enhance user experience by offering customers unique approaches to solve real-world problems in connectivity, imaging, and beyond.

Go!Foton technology stands apart with feature-rich and performance-optimized solutions. We keep our customers satisfied and businesses performing, ensuring new and improved experiences for all.

Inspired by nature and physics, the sky is the limit when imagining what's possible and creating what's next.



Helpful customer  
service support



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