

## Data Centers Enable the 6G and AI Revolution

The fusion of 6G and Artificial Intelligence (AI) heralds a new era. Experts agree that the data center market shows no signs of slowing down. The demand for data storage and processing, both on and off-campus, is propelling the expansion of multi-tenant and hyperscale data centers to unprecedented scales.

The imperative for ultra-high-density networking solutions demands not just capacity but also resilience. Redundancies are woven into the fabric of modern data center infrastructure, ensuring uninterrupted connectivity and seamless operations.

With a user-centric approach and a foundation grounded in network scalability, modularity, and reliability, SEL Data Center Solutions stand as a beacon in the evolving digital landscape. Going beyond the conventional, we offer a harmonious blend of standard and custom products.

As the demands on data centers intensify, let SEL, a trailblazer with a legacy spanning over a century, consistently delivering cutting-edge solutions, technologies, and products to some of the world's foremost companies, find a solution that uniquely fits your needs.

### Ultra-High Fiber Count Data Centers Explained

In the relentless pursuit of data-driven excellence, ultra-high fiber count data centers have emerged as the backbone of the digital landscape. With a **minimum configuration of 5,000 servers housed in 500 racks**, these giants necessitate the **deployment of approximately 3.24 million optical fibers**, with an accompanying **demand for around 6.48 million terminations**. Ultra-high fiber count (UHFC) data centers represent a strategic response to the escalating demands of the digital age.

## Global Data Center Support

Our Commitment: End-to-End Excellence



SEL is your strategic partner in navigating the ever-evolving data center landscape from network planning to design and integration. Not only do we offer a comprehensive product portfolio tailored to the unique challenges in your data center – our global support network is ready to help no matter the location.



49 Americas

71 EMEA

189 Asia Oceania

106 Japan

Our global support network of subsidiaries and affiliates is **ready to help no matter the location.**

#### NORTH AMERICA & CENTRAL AMERICA

Corporate Office  
Sumitomo Electric Lightwave Ltd  
201 South Rogers Lane, Suite 100  
Raleigh, NC 27610, USA

Customer Support Team  
+1 (888) 952-3206

#### LATIN AMERICA

Corporate Office  
SEI Brazil Optical Solutions LTDA  
Av. Victor Andrew, 1209  
Sorocaba - 18086-390 - SP, Brazil

Customer Support Team  
+55 15 3416-7100

Customer Support Team:  
vendas@seibrazil.com.br

#### ASIA PACIFIC & MIDDLE EAST

Sumitomo Electric Industries  
1-3-13 Motoasakaka,  
Minato-ku, Tokyo 107-8468, Japan

Customer Support Team  
+81-(0)3-6406-2855

#### EUROPE

Corporate Office  
Sumitomo Electric Europe Ltd  
220 Centennial Park,  
Elstree, Hertfordshire  
WD6 3SL, United Kingdom

Customer Support Team  
+44 (0) 20 8953 8118

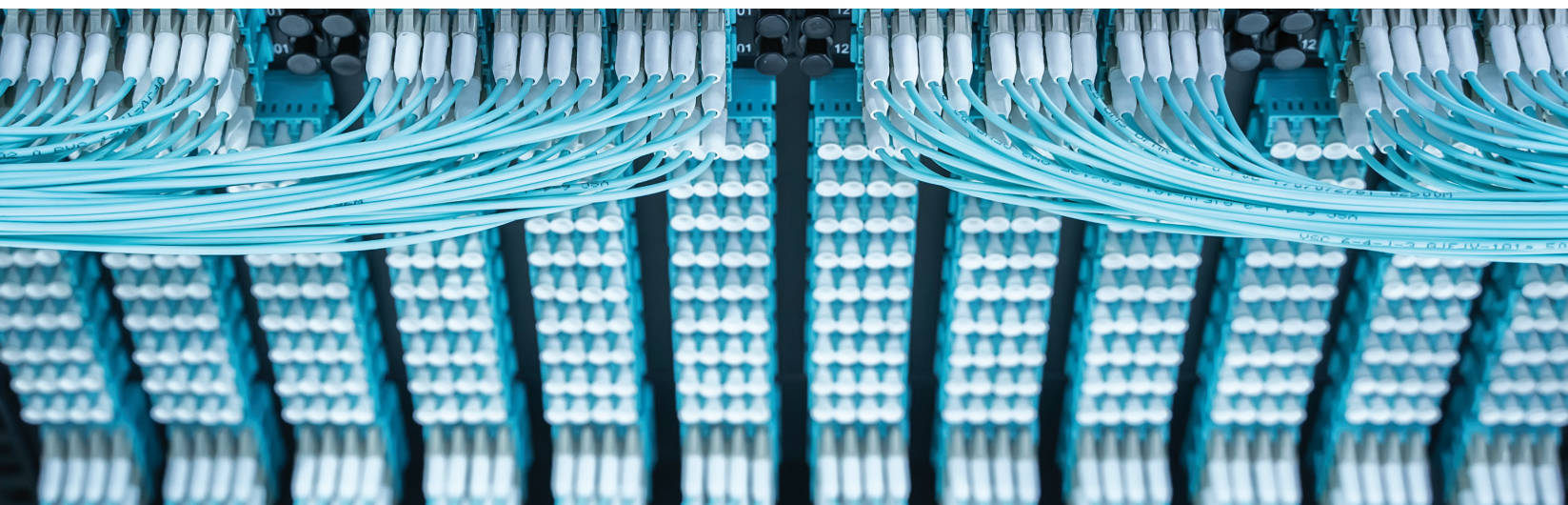


© 2025 Sumitomo Electric Lightwave, Inc. • All rights reserved  
sumitomoelectriclightwave.com

# ULTRA-HIGH DENSITY NETWORKING SOLUTIONS FOR DATA CENTERS

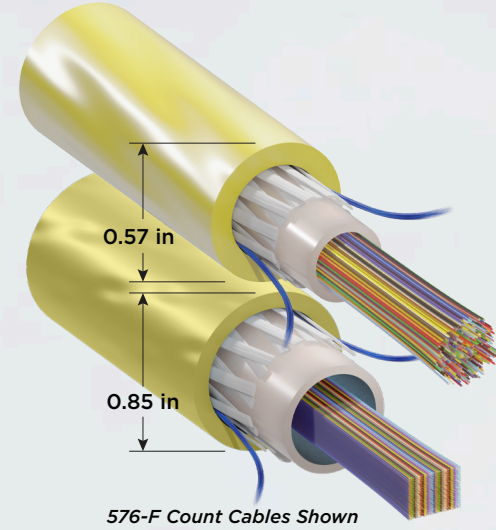
Designed with your Needs in Mind

NEXT GENERATION THINKING™



# Details Matter

When it comes to data center (DC) construction, details matter. From extensive equipment procurement lists to specific requirements of the network, every component, from cables to cabinets, requires careful consideration. Within the complex maze of DC requirements, challenges and missteps impact a project's trajectory, translating into the difference between timely completion and costly delays. SEL has partnered with the biggest names in the industry to develop next-generation thinking solutions and products to help you maximize individual storage and processing requirements.

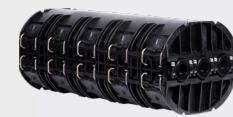


## Why Pliable Ribbon Cables? More Density. SEL's Freeform Ribbon™ Cables

- Allow for up-to 6912-F into existing 1.5" ducts
- Increases drum cable length by up to 50%
- Increases tray capacity up-to-2x compared to same fiber count using flat ribbon cables

### Freeform Ribbon™ Conventional OSP Slotted Core Cables

- Up to 6912-F
- All-dielectric design (no grounding)
- 12-F, splice-ready ribbon groupings

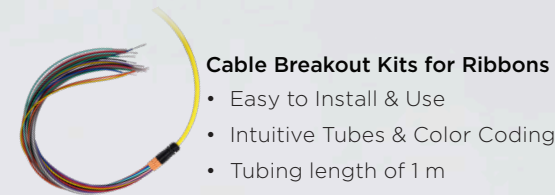
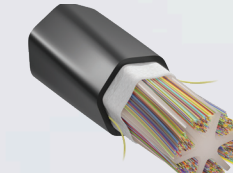


### TN Fiber Optic Splice Closures

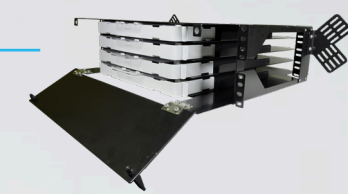
- Suitable for High-Fiber Count 12-F Ribbon Cables
- IP68 Rated
- Available in Butt-Style or In-Line-Style Configurations

### Vertical Hyperscale eXchange (3K-V-HSX)

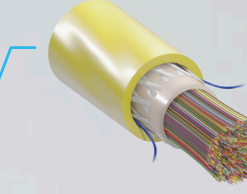
- Fiber Capacity of 3456-F (8 x 432-F Trays)
- Wall-mountable
- Compact size



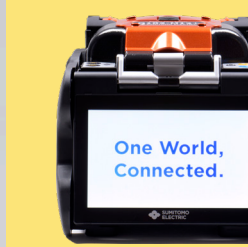
- ### Cable Breakout Kits for Ribbons
- Easy to Install & Use
  - Intuitive Tubes & Color Coding
  - Tubing length of 1 m



- ### Rack-Mounted Splice Enclosure
- Built-in Cable Slack & Routing for Easy Access
  - Fiber Capacity: 1,728 Mass Fusion Splices (4 trays x 432-F/tray)
  - Sliding Splice Trays



- ### Freeform Ribbon™ Central Tube Cables
- Up to 1728-F
  - Available as I/O, Indoor, Riser, LSHF Riser, Plenum, (and Armored)
  - 12-f, splice-ready ribbon groupings



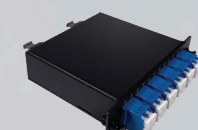
**Why Mass Fusion Splicing Matters**  
The average fusion splice time is two minutes; the industry average labor cost ranges between **\$60 and \$120 per hour**. Mass fusion splicing delivers notable benefits in terms of both time and cost efficiency. The financial implications of both are significant. This technique not only minimizes the time spent on individual splices but also allows for the simultaneous splicing of multiple fibers, further optimizing productivity.



- ### Empty or Pre-Terminated Patch Panels
- 1RU, 2RU, 3RU, 4RU, 6RU
  - LGX & HD options



- ### PrecisionFlex® FOX Splice Cassettes
- LGX footprint splice cassette
  - 24 LC duplex outputs
  - Removable mounting flanges/ears (for front or back installation)
  - Factory assembled and tested

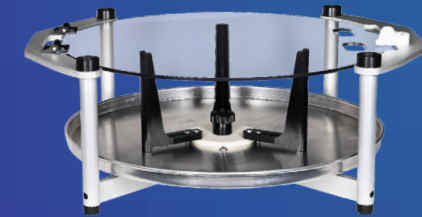


- ### PrecisionFlex® LGX Cassettes
- Up to 3 MPO/MTP input ports and 24 LC duplex outputs
  - Available in a range of configurations
  - Factory-assembled and tested



- ### Cable Assemblies
- Available in exact-length configurations
  - Variations include I/O, Indoor, Armored, Riser, Plenum, LSZH, and No Jacket
  - Available in Simplex, Duplex, Interconnect, and Trunk Configurations

## Less Deployment Stress, Less Deployment Time



SEL's line of innovative cable deployment tools offers out-of-the-box cable management without the hassle of trunk cable and jumper unraveling. Simplified installation and maintenance processes leads to reduced operational costs and quicker deployment of network infrastructure.

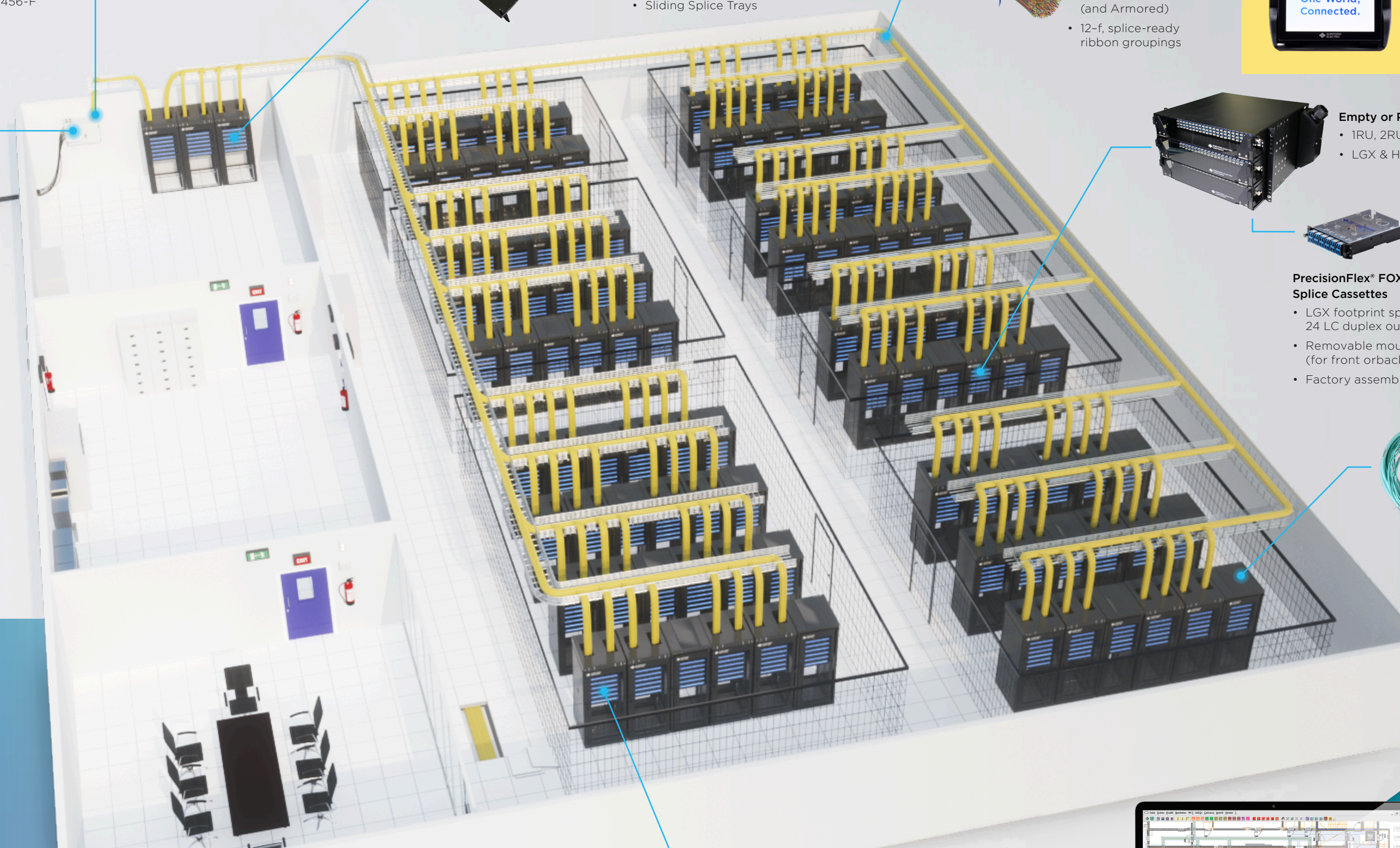


**50% REDUCTION** in Labor



Up to **79% IMPROVEMENT** in Installation Time

-This schematic represents one solution for an Ultra-High Density Multi-tenant Data Center  
-3rd party and internally achieved results



- ### PrecisionFlex® High Density MPO Panel, Cassette and MPO to MPO Jumper
- LC Adapters Feature a Tilt-Up Mechanism
  - 144-Fiber Connection per 1RU
  - 12-Fiber (Quad LC x 3 Rows) Modular Cassette x 12pcs Horizontal Arrangements



# SUMIMAP™

SumiMap stands is a revolutionary management platform providing clarity in fiber optic cable networks. With its powerful combination of Computer-Aided Design (CAD) and database capabilities, SumiMap empowers organizations to gain critical insights into their data center infrastructure. The platform extends its capabilities to visualize and document assets, connections, and various components within the network, providing a comprehensive tool for effective management.