

A photograph of a data center aisle. In the foreground, a server rack is open, revealing a dense array of blue fiber optic patch panels. Above the racks, a metal ladder system holds numerous bright yellow fiber optic cables that run across the ceiling and down into the racks. The background shows more server racks and the dark interior of the data center with some recessed lighting.

Data Center Structured Cabling Solutions

Wirewerks Fiber Deployment System

Wirewerks FLEX Deployment System: Faster Fiber Deployments for Data Centers Built to Scale

In today's data centers, managing complex cable deployments can be a significant challenge. Data center managers face the increasing pressures of:

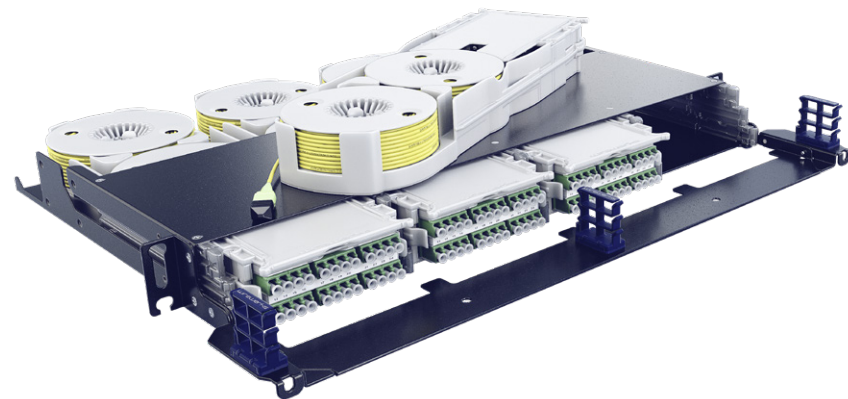
- Increasing uptime
- Shrinking optical loss budgets
- Network scalability
- High cable/port density, space constraints, and time-consuming deployments.

These factors often lead to operational inefficiencies—or worse, the need for significant re-engineering of the data center.

The **Wirewerks FLEX Deployment System** is an innovative fiber management solution designed to address these challenges. This system combines:

- **Pre-configured patch panels** for faster deployments and simplified setup.
- **FLEX Modules with integrated on-board fiber reels** to eliminate cable slack, optimize cable management, and streamline installations.
- **3S/1S Distribution Modules** for flexible connectivity options tailored to data center needs.

The FLEX Deployment System provides a tailored, efficient solution from a single trusted source, making complex deployments faster, leaner, and more reliable.



The FLEX Deployment System
installs **90% faster**
than traditional methods*

With up to 30m of integrated onboard cable management per Dual FLEX module, you **deploy the exact cable** length you need. Reduce cable clutter, optimize space, and significantly reduce packaging and waste in your deployment.

* Traditional methods include typical patch cord deployment (3-4hrs) and/or cable assemblies (30-45mins)

Data Center Layout

Data centers come in all shapes and sizes these days, however some fundamental cabling principles must be consistent throughout all of them.

The Main Distribution Area

The MDA is made up of high density NextSTEP 4U Patch Panels loaded with 3S Fiber Modules. Dual FLEX Modules can be used to store trunk cables inside the panels, or standard MPO Distribution Modules can be used with pre-terminated trunks. Density will range from 48/96F per 1U with LC connectors up to 144F per 1U with CS.

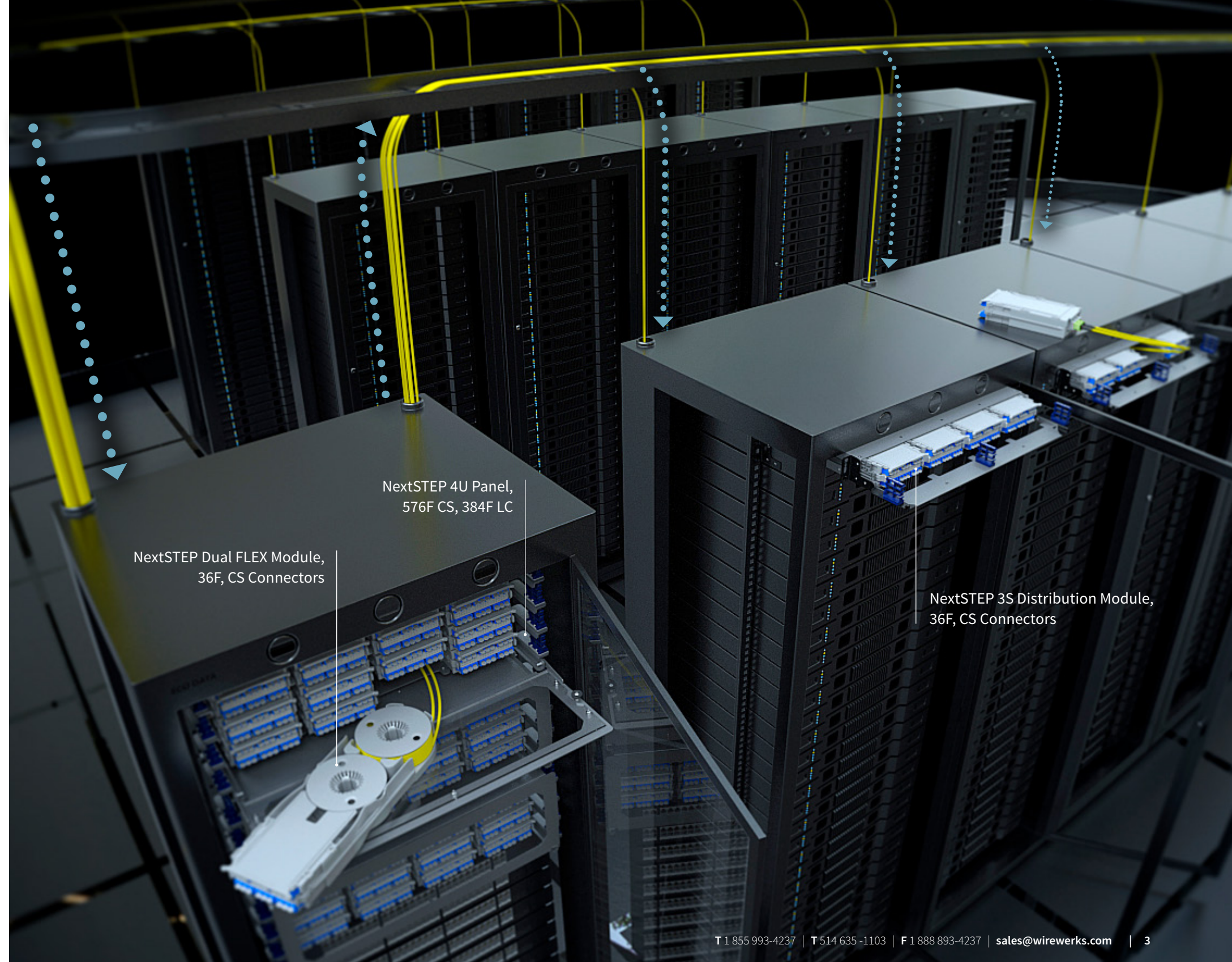
Equipment Distribution Area

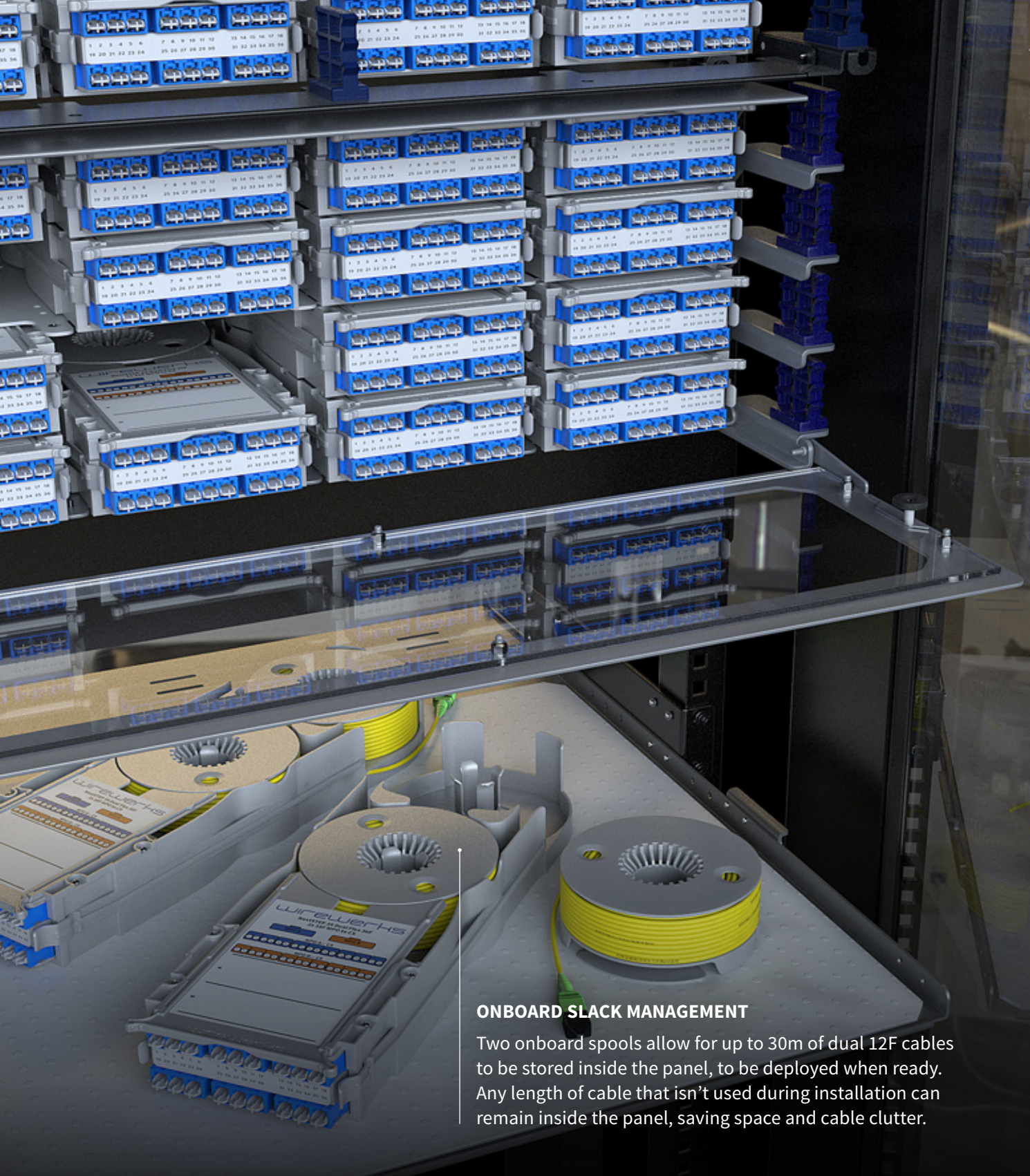
The EDA is the final point of connectivity before end user equipment. A NextSTEP 1U Patch Panel is able to provide from 12 to 144F for various bandwidth requirements. 3S Modules can be used to connect to the Dual FLEX or MPO Distribution Modules from the MDA.

With 50% more connector density per RU and 25% less cable to manage***

the Flex Deployment System ensures less raceway congestion and vertical cable management congestion. A system that delivers a cleaner, more efficient setup with room to grow as your network expands.

*** Using modules pre-configured with all-new CS Connectors,





FLEX Deployment System – Components

MAIN DISTRIBUTION FLEX PANEL

Preconfigured 1U/4U panel fully loaded with Dual FLEX Modules

Rack Mount Panels

- **High-Density Support:** Supports a wide range of densities, including traditional (96F/1U), high-density (144F/1U), and ultra high-density (1,152F/1U with 24F-MPO Adapter Strip Modules), catering to varying network operator preferences and enabling future scalability.
- **Enhanced Flexibility and Customization:** The ability to mix NextSTEP Modules in the same panel allows for customized configurations, supporting patching, distribution, splicing, splitting, WDM, and pre-term applications, making it adaptable to diverse network needs.
- **Superior Accessibility:** Removable front and rear covers, along with enhanced rear accessibility, allow easy installation, maintenance, and upgrades, even when multiple panels are installed directly above or below each other.

NextSTEP Dual FLEX Module

- **Instant Deployment:** Quickly deploy factory-terminated MPO-MPO trunk cables up to 30m, reducing installation time and eliminating the need for on-site cable termination.
- **Precise Cable Management:** Deploy only the exact cable length needed, eliminating unnecessary slack and reducing congestion, which streamlines cable management and improves airflow.
- **Flexible Installation:** Access, install, or remove the module from the front or rear of any NextSTEP enclosure using tool-less sliders, making installation and maintenance faster and easier.
- **Space Efficiency:** Support up to 96 fibers (LC) or 144F (CS) in a single 1U panel, optimizing rack space and increasing connector density without sacrificing performance.
- **Enhanced Reliability:** Factory-terminated and tested low insertion loss (IL) connections ensure minimal impact on loss budgets, providing reliable, high-performance connectivity.

ONBOARD SLACK MANAGEMENT

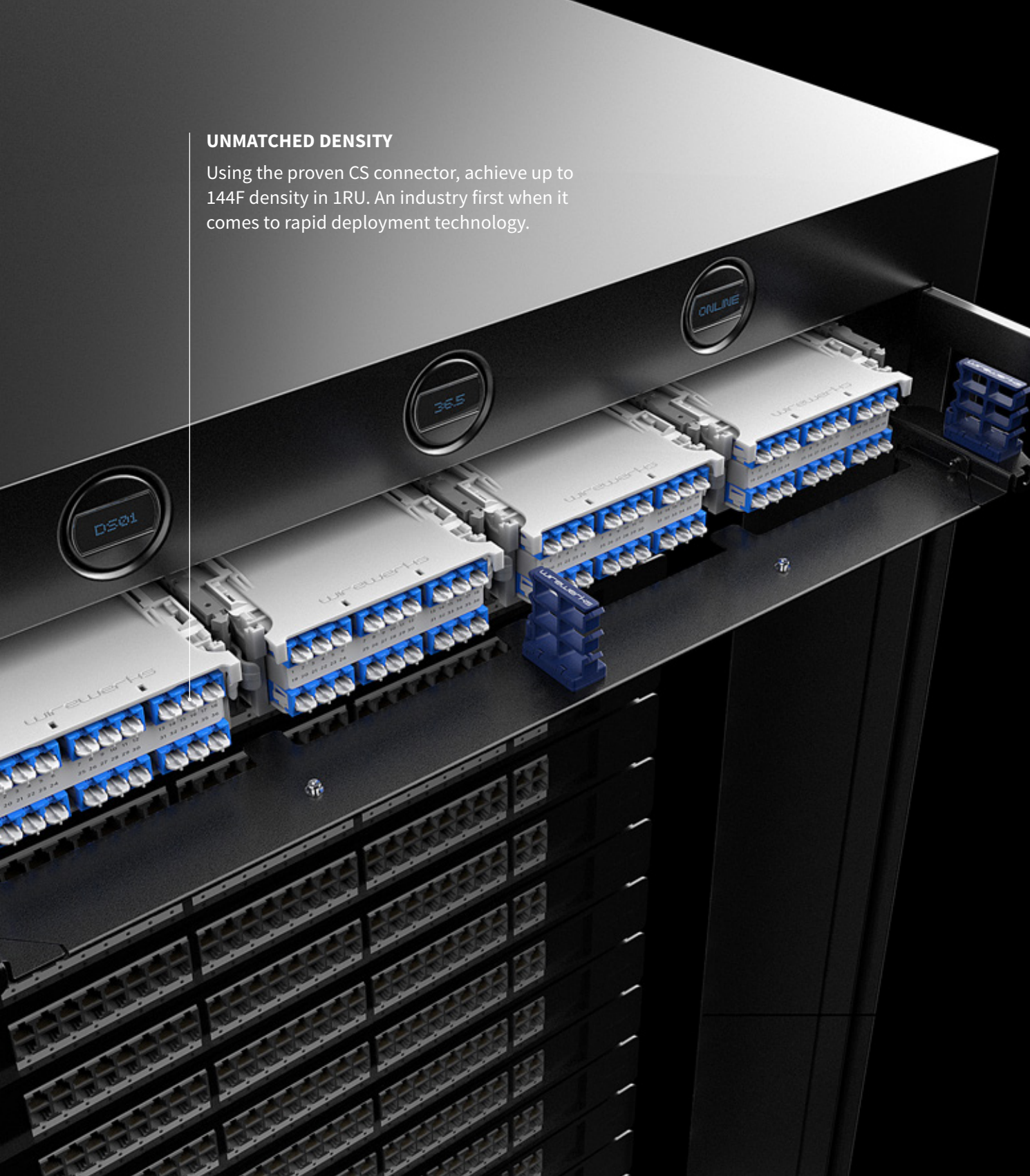
Two onboard spools allow for up to 30m of dual 12F cables to be stored inside the panel, to be deployed when ready. Any length of cable that isn't used during installation can remain inside the panel, saving space and cable clutter.



Download
Product Data Sheets

UNMATCHED DENSITY

Using the proven CS connector, achieve up to 144F density in 1RU. An industry first when it comes to rapid deployment technology.



FLEX Deployment System – Components

MIRROR DISTRIBUTION PANEL

Preconfigured 1U panel with 4x Distribution Modules

NextSTEP 3S Distribution Module

The 3S module, which occupies 3 of the 12 slots in a panel, offers the following benefits:

- **High-Density and Flexible Configurations:** Supports up to 36 CS or 24 LC ports per module, fully compatible with Base-8 fiber network infrastructures, allowing up to 144 CS ports (96 LC ports) per 1U – matching the density of the FLEX Distribution Panel.
- **Clear Accessibility and Labeling:** The module provides straightforward front access to flush-mounted ports, simplifying cable management in data center racks. The large, slide-out labeling plate offers clear, easy-to-read identification without disturbing connections, ensuring accurate and organized port management.
- **Customizable, Reliable Performance:** Factory-terminated with low insertion loss, the module supports various fiber types and connectors to meet the specific demands of data centers, ensuring tailored, high-performance connectivity that maintains low loss budgets and adapts to evolving network needs.



Download
Product Data Sheets



FLEX Deployment System – Components

MIRROR DISTRIBUTION PANEL

Preconfigured 1U panel with 4x Distribution Modules

NextSTEP 1S Distribution Module

- **High-Density Connectivity:** Each NextSTEP 1S Module supports **12 LC** or **24 SN** connectors, enabling high-density fiber distribution or breakout within a compact footprint, ideal for maximizing space in data centers.
- **Effortless Installation and Maintenance:** The tool-less slide-in/slide-out installation allows for easy module access from the front or rear of the patch panel, with secure click-in-place stops for quick and reliable setup.
- **Superior Fiber Management:** Angled connectors guide patch cords toward a central point, ensuring clean and organized fiber management, reducing clutter and making patch cord grouping more efficient.
- **Ultra-Low Insertion Loss:** All 1S Modules are factory-terminated with ultra-low insertion loss, minimizing the impact on dB loss budgets and ensuring high-performance connectivity across the network.
- **Versatile Configuration Options:** The modules can be configured for straight or 400G/40G fiber schemes, providing flexibility to support current and future high-speed network requirements.

Maximize your dB Budget**

The FLEX Deployment System is 3rd party tested and guaranteed to exceed industry standards for insertion loss and return loss.

** [Download 3rd party \(Santec\) verification here](#)



Download Product Data Sheets

Fiber Optic Cable Assemblies

Wirewerks™ offers a full range of custom-built, factory-terminated multi-fiber cable assemblies tailored to your specific fiber types, connectors, and configurations. Each assembly is fully tested, documented, and labeled for immediate, plug-and-play installation. Our team ensures rapid production and on-time delivery, coordinating all custom assemblies to meet your project requirements. Engineered to Telcordia, ANSI/TIA, and IEC standards, Wirewerks assemblies provide superior performance, reliability, and simplicity for any optical network.

- **Guaranteed Quality and Reliability:** Each assembly undergoes 100% insertion loss (IL), return loss (RL), end-face geometry testing, and visual inspection for contaminants, ensuring zero error performance and consistent superior quality.
- **Lower Installation Costs:** Factory-terminated assemblies require no consumables, specialized tools, or termination training, enabling fast, error-free installations that reduce total installation costs.
- **Optimized Performance:** Bend-insensitive fiber and factory-termination improve end-to-end attenuation, throughput, and link loss budgets, ensuring high performance and reliability across the network.
- **Versatile Compatibility:** Supports a wide range of standard connectors (MPO, LC, SC, SN) and cable constructions, providing flexibility to meet various network requirements and simplifying integration into existing infrastructure.
- **Reduced Total Cost of Ownership:** Stringent factory process control and superior performance lead to increased reliability and longevity, ultimately lowering the total cost of ownership.



Your Fiber, Your Way

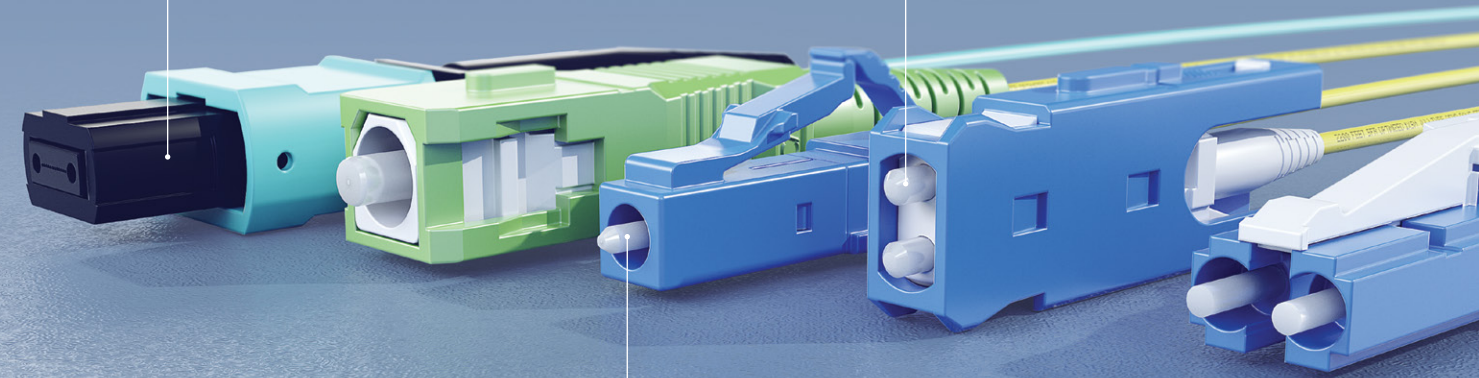
Wirewerks fiber assemblies can be customised to your specifications, including connector type, polarity, fire rating, sub-unit length, and connector stagger.

PLUG & PLAY CONNECTIVITY

All the benefits of quick and secure MPO connectors with the ease of use of rapid deploying onboard trunk cables.

ENHANCED PERFORMANCE

Ultra Low-Loss fiber optic assemblies are tested in the Wirewerks Lab and built for high-performance connectivity.



MORE FIBER, LESS CLUTTER

By using high density, pre-terminated, Mini Distribution fiber cables, you can save over 50% of space in cable trays compared with standard distribution cables. Both Wirewerks FLEX solutions and pre-terminated assemblies use Mini Distribution to reduce cable density in trays.

Notable Projects and Resource Documentation



Cloud Service Provider Standardizes on Wirewerks Data Center Solution

14 Data Centers in US, Canada, UK

CASE STUDY



Data Center Structured Cabling Solutions Matrix

DOWNLOAD



Leading Service Provider Builds OM5 Data Center

Argentina

CASE STUDY



Data Center Projects & Applications

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wirewerks™



Enterprise LAN | Premise Network Solutions
FTTx | MDU | Hybrid In-Building Wireless
CO/Headend & Data Center Solutions

Enabling Agile Network Expansion

30+
YEARS

Wirewerks delivers award-winning advanced fiber and copper for smarter connectivity solutions.

We Know the complexities you face in transitioning to new network Technologies.

We Understand the need to upgrade efficiently and sustainably to meet the demands of higher throughput and lower latency.

We Provide structured cabling solutions that integrate smoothly today, and prepare you for the network expansions of tomorrow.

The Power of **We.**
With **Wirewerks.**

