

Data Center Wire And Cable - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2026 - 2031)

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Report description:

Data Center Wire And Cable Market Analysis

The Data Center Wire and Cable market is expected to grow from USD 20.91 billion in 2025 to USD 22.55 billion in 2026 and is forecast to reach USD 32.92 billion by 2031 at 7.86% CAGR over 2026-2031. Continued hyperscale construction, rapid migration to 400 G and 800 G optical interconnects, and surging demand from AI and high-performance computing (HPC) workloads are the core growth engines. New-build facilities now specify structured cabling footprints up to five times denser than legacy CPU-centric halls, pushing optical-fiber consumption ahead of copper for intra-rack and inter-rack links. Edge and micro-data-center roll-outs, accelerated by 5G and latency-sensitive applications, are creating fresh use cases for ruggedized, temperature-hardened cable designs. Policy incentives such as the Build America Buy America Act are spurring domestic fiber investments, while sustainability mandates in Europe are steering purchasing toward low-loss and recyclable formulations. Commodity volatility remains a watch item; copper briefly touched USD 5.20 per pound in 2024 and lifted cable bills by as much as 35%.

Global Data Center Wire And Cable Market Trends and Insights

Robust Data-Center Expansion Worldwide

Hyperscale cloud operators announced multi-gigawatt campuses across the United States, India, and Indonesia in 2025, each demanding several million fiber terminations. Average rack densities rose from 15 kW in 2022 to 40 kW in new AI halls, doubling the horizontal cable runs per rack. Contractors, therefore, specify higher cable-tray capacities and pre-terminated trunk bundles to

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compress installation schedules. Regional governments in Singapore and Malaysia capped new data-center permits, yet green-field projects in secondary metros such as Johor Bahru and Phoenix offset the slowdown. Suppliers able to guarantee short lead times on multimodal assemblies are winning multi-year supply agreements with hyperscalers.

Surge in AI/HPC Workloads Requiring Ultra-Low-Latency Links

Training clusters built around tens of thousands of GPUs need four to five times more fiber jumpers per server than CPU racks, shifting bill-of-materials weighting toward high-density MPO-to-MPO trunks. Ethernet is overtaking InfiniBand for large-scale AI fabrics, prompting broad adoption of 400 G and 800 G short-reach optics that still fit the leaf-and-spine model. Corning's Contour Flow cable now ships with 288 fibers in the same outer diameter as earlier 144-fiber bundles, halving pathway congestion. Latency budgets of 5 ns between GPU nodes force operators to minimize splice points, favoring factory-terminated solutions and driving demand for precision-polished MT-based connectors.

Thermal-Management Challenges in High-Density Bundles

Airflow constriction inside cable ladders raises inlet temperatures, and each 1 C rise cuts DWDM link margin by 0.08 dB. Liquid-cooling manifolds occupy space once used for cable trays, forcing designers to reroute bundles in tighter radii that risk micro-bending losses. Vendors counter with gel-free cables rated to 85 C and introduce flat-pack trunk formats that occupy 30% less cross-section than round designs. Operators trial heat-resistant pull-tabs to ease port access inside 55 C aisles but still budget higher OpEx for frequent re-termination.

Other drivers and restraints analyzed in the detailed report include:

Rapid Adoption of 400 G/800 G Optical Interconnects
Proliferation of Edge and Micro Data Centers
Retrofitting Legacy Facilities with High-Speed Cabling

For complete list of drivers and restraints, kindly check the Table Of Contents.

Segment Analysis

Optical fiber captured 59.30% of the Data Center Wire and Cable market in 2025 and is forecast to grow at an 8.12% CAGR to 2031, outpacing copper on nearly every metric. The Data Center Wire and Cable market size for fiber cables is projected to reach USD 19.8 billion by 2031, reflecting its indispensability for 400 G, 800 G, and forthcoming 1.6 T upgrades. Copper data cables retain relevance below 10 G and in low-latency bypass zones, yet rising thermal loads and EMI concerns cap their lane length. Power cables, while volumetrically smaller, remain mission-critical as rack power climbs past 90 kW and facilities adopt 415 V distribution.

Innovation centers on density: Corning's SMF-28 Contour enables 288 fibers within earlier 144-fiber envelopes, giving designers 40% bend-radius relief. Copper-clad aluminum substitutes appear in short, low-ampacity applications to offset metal volatility. Vendors also release fiber-optic assemblies with bio-based jackets to meet European environmental regulations. The race to co-design cable, connector, and transceiver as a holistic channel differentiates suppliers and cements long-term master-service agreements.

Hyperscale facilities held 48.60% of 2025 revenue, equal to the largest share in the Data Center Wire and Cable market. Edge and micro nodes, however, lead growth at 8.78% CAGR, lifting the Data Center Wire and Cable market size for these deployments to USD 6.55 billion by 2031. Gigawatt-scale campuses in Ohio, Virginia, and Uttar Pradesh require thousands of kilometers of single-mode fiber to interconnect GPU pods. Conversely, prefabricated EDCs consume shorter runs but demand ruggedized

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sheathing and IP-rated connectors that command premium pricing.

Colocation operators in Frankfurt and Ashburn keep refreshing structured cabling to court AI tenants, yet many legacy enterprise halls opt for cloud offload rather than expensive overhauls. Suppliers tailor SKUs: bend-insensitive multimode for hyperscale intra-build runs and armored loose-tube for sidewalk cabinets. As 5G standalone cores proliferate, micro sites also install power-over-ethernet for radio heads, subtly raising copper volumes. The balance between centralized and distributed spends will dictate the allocation of R&D funds across vendors.

The Data Center Wire and Cable Market is Segmented by Cable Type (Optical Fiber, Copper Data and More), Data Center Type (Enterprise, Colocation and More), Application (Structured Cabling, Power Distribution and More), Cable Construction(Shielded, Unshielded and More), Deployment Environment (Indoor White Space, Outdoor Plant and More), and Geography(North America, and More). Market Forecasts are Provided in Terms of Value (USD).

Geography Analysis

North America led the Data Center Wire and Cable market in 2025, driven by hyperscale investments exceeding USD 34 billion and reinforced by federal policies mandating domestic fiber for publicly funded broadband projects. Corning, CommScope, and AFL collectively pledged more than USD 500 million in new capacity, reducing import reliance and shortening project lead times. Canada benefits from colder climates and renewable energy, luring colocation builds in Quebec. Mexico's near-shoring wave fuels Tier III halls in Queretaro, which now require bilingual installation crews versed in U.S. standards.

Asia-Pacific delivers the highest regional CAGR through 2031, propelled by India's data-sovereignty rules and China's cloud service scale-up. Singapore's construction moratorium pushed operators to Johor and Batam, stimulating cross-border fiber corridors. Australia records new submarine landings on its western coast, linking Perth to Muscat and Mombasa. Meanwhile, Japan and South Korea spearhead 1.6 T Ethernet R&D, accelerating domestic demand for prototype trunk cables.

Europe remains steady but highly regulated; EN 50575 and CPR rules require CE marking and fire-class certification for any cable permanently installed in buildings. Germany, the Netherlands, and the Nordics compete on renewable energy availability and stable grids, fostering sustainability-driven cable specifications. Middle East and Africa, though smaller, post double-digit growth as UAE, Saudi Arabia, and Kenya entice international cloud incumbents. Subsea projects circling the African continent guarantee long-term pull for ultra-long-haul fiber, even as political risk premiums linger.

List of Companies Covered in this Report:

Nexans S.A. Belden Inc. Panduit Corp. CommScope Holding Co. Inc. Corning Inc. TE Connectivity plc Yangtze Optical Fibre and Cable (YOFC) Legrand Group Southwire Company LLC Furukawa Electric Co. Ltd. Prysmian Group Sumitomo Electric Industries Ltd. LS Cable and System Superior Essex Inc. AFL Global Rosenberger Hochfrequenztechnik GmbH Hexatron Group AB HUBER+SUHNER AG Fujikura Ltd. Datwyler IT Infra Ciena Corporation Tratos Cavi S.p.A.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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