Data
Centers

barpa

Data Centers are essential infrastructures for the storage, processing, and distribution of digital data, supporting everything from business applications to cloud services to artificial intelligence. These centers are designed to ensure high availability, performance, and security, serving as the backbone of the digital age.

Modern **Data Centers** are categorized into different types based on their architecture and function:

1. ENTERPRISE DATA CENTERS
Installed and managed by companies to support internal operations.

2. COLOCATION DATA CENTERS
Shared infrastructure used by multiple companies, enabling cost reduction.

3. CLOUD DATA CENTERS
Used by cloud service providers such as AWS, Microsoft Azure, and Google Cloud.

4. EDGE DATA CENTERS
Small decentralized centers that bring data processing closer to the end user, reducing latency and improving network efficiency.

What is a
Data Center?

INFRASTRUCTURE SOLUTIONS FOR DATA CENTERS

Key Challenges Faced by **Data Centers:**

Scalability and High Density

The need to support growing data volumes while maintaining infrastructure performance and readiness for future expansion.

Energy Efficiency and Airflow

Maintain optimal equipment temperatures without wasting energy.

Automation and AI

Growing use of artificial intelligence and machine learning to optimize operations and predictive management.

Redundancy and Operational Continuity

Implementation of solutions to prevent downtime, including multiple power sources and network links.

Physical and Digital Security

Protection against unauthorized access and cyberattacks.

Growth and Trends in **Data Centers**

The global **Data Center** market is rapidly expanding. According to Global Market Insights, the sector is expected to reach over **$400 billion by 2027**, driven by the increasing adoption of **cloud computing, edge computing, and artificial intelligence**.

The structured cabling market for Data Centers is expected to grow at an annual rate of 10% between 2023 and 2030, according to Research and Markets.

10%

20.6 ZB

By 2025, global data traffic is expected to reach 20.6 zettabytes, according to Cisco Global Cloud Index.

Edge Data Centers are growing 50% faster than traditional ones due to the need for distributed processing and low latency.

Factors Driving This Growth:

CLOUD COMPUTING EXPANSION

Organizations are migrating to cloud-based solutions, increasing demand for modern Data Centers.

DATA DENSITY GROWTH

With the rise of IoT and Big Data, Data Centers require ultra-high-density solutions to manage massive data volumes.

ENERGY EFFICIENCY AND SUSTAINABILITY

Adopting smart cooling solutions and optimizing airflow reduces operational costs.

SECURITY AND ACCESS CONTROL

Protecting sensitive data and preventing unauthorized access are top priorities.

AUTOMATION AND ARTIFICIAL INTELLIGENCE

AI is used to predict failures, manage resources, and optimize workload distribution.

Data Center

Standards and Certifications

To ensure the reliability and security of Data Centers, it is essential to follow international standards, such as:

ANSI/TIA-942
Defines the standards for cabling and infrastructure in Data Centers.

ISO 27001
Information security certification.

UPTIME INSTITUTE TIER STANDARD
Classifies Data Centers into four tiers (I to IV) based on availability and redundancy.

ASHRAE TC 9.9
Recommendations for efficient cooling and airflow.

BICSI 002
Best-practice guide for Data Center design and implementation.

Data Centers Challenges

Data Center managers face increasing challenges to maintain efficient operations:

Cooling and Airflow
Maintain a stable temperature and prevent hotspots to optimize asset performance.

High Density and Performance
Manage infrastructure to support increasing data loads without compromising latency.

Redundancy and Operational Continuity
Prevent downtime with efficient backup and power systems.

Cybersecurity and Access Control Management
Implement robust solutions against cyberattacks and unauthorized access.

Network Expansion and Fiber Backbone
Ensure the infrastructure supports growing bandwidth and low-latency demands.

Power over Ethernet (PoE) for Smart Devices
Use PoE to efficiently power sensors, cameras, and WLAN antennas in the Data Center environment.

Automation and AI
Use artificial intelligence for predictive and preventive failure management and energy consumption optimization.

barpa Solutions
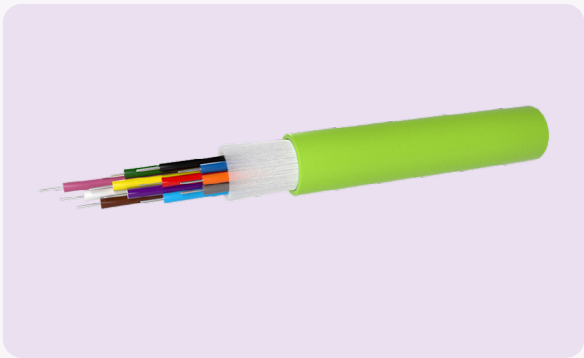for **Data Centers**

barpa develops high-quality passive infrastructure solutions for Data Centers, ensuring maximum performance and reliability. The barpa portfolio includes:

MPO/MTP - Speed and Efficiency for Expanding Enterprise Networks

Ideal for high-density data centers, MPO/MTP connectors allow simultaneous termination of multiple fibers, accelerating deployment and enabling future expansion.

☑ Up to 90% faster installation with fewer failure points for improved network reliability.

OM5 Cabling Solutions for High-Speed Backbone

barpa offers OM5 fiber optic systems, ideal for supporting high-capacity, low-latency networks in modern Data Centers.

☑ Support for data transmission beyond 100Gbps, ensuring both scalability and high performance.

☑ Compatible with SWDM (Shortwave Wavelength Division Multiplexing) applications, enabling greater efficiency by maximizing the data transmission capacity of the optical fiber.

☑ Reduced latency and optimized use of network resources for demanding workloads such as artificial intelligence and data analytics.

Category 8 Cabling for Next-Generation Networks

barpa delivers Category 8 structured cabling solutions, engineered to meet the increasing demands of high-performance data centers.

☑ Supports speeds of up to 40Gbps over short distances, ideal for server rack interconnections.

☑ Full shielding provides high resistance to electromagnetic interference, ensuring more reliable communications.

☑ Designed for ultra-high-density environments, maintaining efficient data transmission without performance loss.

Ultra High-Density Infrastructure for Efficiency and Scalability

barpa offers ultra high-density solutions designed to maximize space utilization and operational efficiency in data centers.
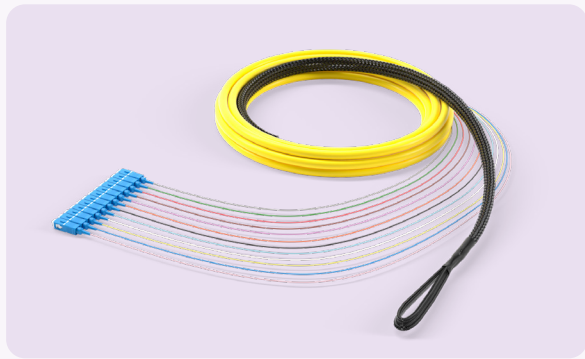
☑ Modular and scalable systems enable flexible deployment and sustainable growth.

☑ Optimized thermal management and airflow reduce energy costs and enhance cooling efficiency.

☑ High-density patch panels and pre-terminated solutions ensure fast and organized installations.

Energy Efficiency and Sustainability
CPR Cca and B2ca Cables

Safety and energy efficiency are fundamental pillars for modern data centers.

☑ Low fire propagation and reduced emission of smoke and toxic gases (LSZH) ensure a safer and more sustainable environment.

☑ Lower electrical resistance helps minimize power loss, optimizing overall system performance.

Pre-Assembled Fiber
and Copper Solutions

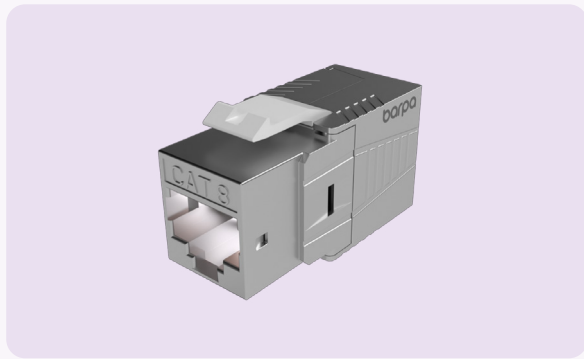To accelerate deployment, barpa offers pre-assembled solutions that ensure speed and precision during installation.

☑ Installation time reduced—by up to 60% faster—minimizing errors and lowering both CAPEX and OPEX.

☑ High-quality manufacturing eliminates field issues, ensuring a robust and reliable network.

Rack Solutions for Data Centers
and Technical Rooms

Our racks and enclosures are designed to organize, ventilate, and protect critical equipment, adapting seamlessly to a wide range of environments.

☑ Multiple formats – from 1000kg to 1500kg static load capacity, available in various configurations.

☑ Optimized thermal management reduces the risk of overheating and ensures operational efficiency.

Ease of Installation and Maintenance
Reducing CAPEX and OPEX

With innovations such as screwless fiber optic adapters and tool-less RJ45 modules, barpa ensures fast and hassle-free installation.

☑ Enables re-termination in case of error, promoting greater efficiency and minimizing material waste.

Benefits
of choosing barpa

Working with
barpa means:

Certified and
Future-Ready Solutions
Robust and scalable infrastructures, built to meet the demands of today's market and tomorrow's challenges.

Secure, Efficient, and
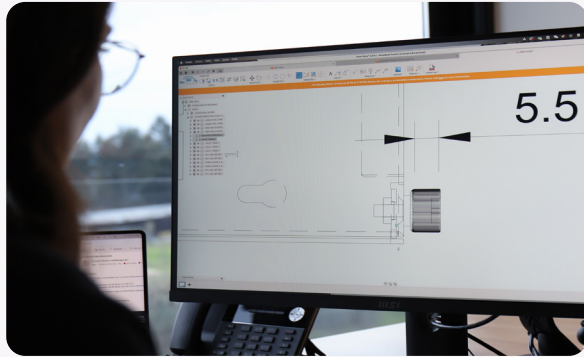### Sustainable Networks
Advanced protection against cyberattacks and optimized energy resource management.

Fast Installation and
Reduced Operational Costs
Agile processes that minimize downtime and maximize efficiency.

Specialized
Technical Support
An experienced team ready to develop custom projects and solve specific challenges.

Custom Solution
Development

Our Research and Development (R&D) team is fully equipped to understand the unique needs of each project, designing tailor-made solutions that ensure maximum performance and scalability.

Ready to move forward?

Schedule a meeting with our commercial team and discover how we can boost your connectivity and efficiency!

✉ info@barpa.eu
🌐 www.barpa.eu

barpa is a company specialized in highperformance connectivity infrastructures, delivering **fiber optic and structured cabling solutions across multiple sectors, including healthcare, hospitality, industry, commercial buildings, data centers, smart buildings, and more.** With a strong commitment to proximity, quality, and innovation, barpa provides resilient and secure infrastructures that ensure uninterrupted connectivity for a wide range of applications.

Our purpose is clear:
Unite humanity through telecommunications across generations and to become one of the most influential companies in the sector globally.

As a brand of the Argon Group, active in the market since 2001, we demonstrate sustainable growth, backed by multiple certifications and awards in management, environmental, and financial areas.

Copper
Certified solutions with proven quality

Fiber Optic
Reliable, high-performance connectivity

Racks and Cabinets
Engineered for maximum safety and efficiency

What Sets Us Apart

At **barpa**, we believe that the combination of experience, innovation, and closeness to our clients is what makes us a trusted partner for structured cabling infrastructure. Our commitment to quality, customization, and sustainability is reflected in everything we do, delivering high-performance solutions for the most demanding sectors.

MARKET REPUTATION

barpa has earned a strong and trustworthy market position, recognized for its quality, reliability, and commitment to clients. Our industry experience allows us to deliver solutions that meet and exceed market expectations.

R&D AND INNOVATION FOCUS

Our Research and Development (R&D) team constantly works on creating next-generation technology solutions, ensuring our products meet the demands of an ever-evolving market.

CLIENT PROXIMITY

We value partnership relationships and continuous support. Our team is always available to understand challenges, propose tailored solutions, and provide the best support before, during, and after each project.

SUSTAINABILITY AND EFFICIENCY

We are committed to ecological and efficient solutions, reducing waste and optimizing resource use. This is proven by our ESG Committee and internal Turn Green initiatives.

TECHNICAL EXPERTISE AND CUSTOMIZATION

We have a highly specialized team and flexible processes that allow us to develop and produce solutions tailored to each client's needs. We don't just deliver products; we provide solutions adapted to each infrastructure.

MOTIVATED AND PROACTIVE TEAMS

barpa's success is driven by our highly motivated teams, focused on excellence and client proximity. We value a culture of proactivity and continuous improvement in pursuit of our mission.

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Support and Partnerships

Production

At barpa, we believe that production with quality and cost efficiency are key to success.

That's why we guarantee excellence standards in all our solutions, from the development phase through to final production.

We rely on a global production network, through strategic partnerships in several parts of the world, ensuring the best technology, efficiency, and scalability to meet sector demands.

All production is rigorously controlled by our team, ensuring certified quality, compliance with international standards, and total product reliability.

With this approach, we develop innovative, competitive, and adaptable solutions aligned with the highest technical and safety requirements.

Logistics

At barpa, we know that logistics efficiency is essential to ensure that infrastructures have access to the best connectivity solutions without delay.

Our distribution center in Portugal allows us to manage orders efficiently and ensure rapid deliveries worldwide. Our team closely follows the entire logistics process, from dispatch to final delivery, ensuring transparency, predictability, and continuous support.

We work with strategic logistics partners to deliver flexible solutions tailored to client needs.

With barpa, you can count on fast order management, continuous tracking, and dedicated support—ensuring your projects never stall due to material shortages.

Quality

At barpa, quality is the foundation of everything we do.

From development to production and delivery, we ensure each solution meets the highest technical and reliability standards.

Each product undergoes rigorous quality control processes, ensuring performance, durability, and compliance with international standards.

Our client-centric focus allows us to deliver customized solutions that build confidence and satisfaction in every project.

With barpa, our clients know they can rely on certified, reliable solutions ready to meet infrastructure challenges.

Our commitment to excellence is reflected in customer satisfaction, with an NPS (Net Promoter Score) rating of 9.4.

25-Year Warranty Program

At barpa, we believe in the quality, reliability, and durability of our structured cabling solutions. That's why we offer an exclusive 25-Year Warranty Program for certified barpa integrators, ensuring maximum security and performance of installed infrastructures.

By joining the program, integrators gain access to:

☑ Full 25-year coverage on the performance and certified solution components.

☑ Compliance assurance with international standards and guaranteed performance for future applications.

☑ Specialized technical support for project implementation and infrastructure certification.

☑ Market differentiation, offering end clients a validated and long-lasting installation.

barpa works in partnership with integrators to ensure each project is delivered with certified quality, providing reliability and added value for clients in the most demanding sectors.

Want to become a Certified barpa Integrator and offer 25 years of warranty on your installations?

Get in touch with us and discover all the advantages of the program!

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