China Unicom Optical Cable Network



Overview

China United Network Communications Group Co., Ltd., doing business as China Unicom, is a Chinese state-owned telecommunications operator. Originally founded in 1994 as a wireless paging and GSM mobile operator, it currently provides a range of services including mobile network, long-distance & local calling, data communication, Internet services, digital television, and IP telephony.

Key Takeaways

China Unicom has extensive optical cable coverage across China, including backbone networks, gigabit broadband, 5G integration, and advanced fiber deployments like G. 654.

E LEA

F optical cables.

Network Scale and Backbone Expansion

China Unicom has been actively expanding its backbone optical fiber network, implementing the “Eight Vertical and Eight Horizontal” strategy, which added over 9,000 kilometers of optical fiber to interconnect computing hub nodes and support regional development. The company has also conducted centralized procurement of optical cables, totaling 65. 7859 million core kilometers in 2024, distributed among 15 major optical fiber and cable manufacturers.

This ensures a robust supply for both urban and rural network expansion.

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Advanced Fiber Technologies

China Unicom has deployed LEAF (Large Effective Area Fiber, ITU-T G. 654. E) optical cables in key trunk routes, including Hami-Barkol in Xinjiang and Jinan-Qingdao in Shandong.

These fibers are designed for high-speed, long-distance transmission with low loss, making them suitable for harsh environments such as deserts and snow-covered regions. The deployment of ultra-low loss large effective area fibers enhances network capacity and reliability, supporting high-speed broadband and backbone connectivity. Broadband and 5G IntegrationThe company has expanded gigabit broadband capacity, with nearly 90% of broadband ports being gigabit-ready, and launched pre-commercial trials of 10-gigabit optical fiber networks in over 100 cities.

Additionally, 5G-A base stations have been deployed in more than 330 cities, integrating mobile and broadband networks to provide high-speed, ubiquitous connectivity. These upgrades also support IoT, IoV, and industrial internet applications, ensuring stable and intelligent network services.

Submarine and Global Connectivity

China Unicom also maintains submarine optical cable networks, connecting international routes and supporting global data transmission. These undersea cables complement domestic fiber networks, enabling high-capacity international connectivity for enterprise and consumer services.

Summary

Overall, China Unicom's optical cable coverage is comprehensive and technologically advanced, spanning urban and rural areas, backbone and access networks, and integrating next-generation fiber technologies. The network supports high-speed broadband, 5G, IoT, and industrial applications, ensuring reliable and scalable connectivity across China and internationally.

Article Content

China Unicom Global Map

China Unicom Submarine Cable Submarine Cable PoP Cloudbond Data Center Earth Station ITMC Border Station Premium Network Node Smart Video Network Node

Advance network innovation and strengthen the construction of new ...

The Company gradually expanded the deployment of international network infrastructure, broadened overseas infrastructure connections, accelerated the deployment of submarine cables in key regions,

China Unicom

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Connectivity

Launched the Unicom Security Guardian, which served 210 million users and offered peace of mind in communication and safeguarded property security.

AI-Native Optical Networks towards 2030 and Beyond

The AI-native network aims to introduce knowledge graph and artificial intelligence technologies into optical networks to characterize, construct, learn, and apply the network''s multidimensional

Optical fiber and cable market: This year is a "big year"

Larger-scale procurement is on the way. Recently, the results of China Unicom''s 2024 optical cable centralized procurement project were announced. 15 optical fiber and cable companies shared this

A provincial company of a certain operator temporarily stopped ...

Recently, a centralized procurement project of a provincial China Unicom company was announced to be terminated. However, the project was only launched half a month ago.

YOFC Assists Three Major Operators in Advancing the

Working with industry peers, YOFC seeks to foster collaborative innovation across the industrial chain, fast-track the commercialization of new

China Unicom Home

With an extensive network infrastructure covering more than 30 countries and regions, we provide services for enterprise and carrier customers around the world.

China Unicom Global Limited□a wholly-owned subsidiary of China

In November 2019, China Unicom Global Limited established its Cambodia company, creating a new landscape for the information optical channel within the Belt and Road Initiative.

Developing Telecoms | Telecom news portal for

Partner Content Beyond robot races: Inside China Unicom and Huawei''s innovations for the mobile AI era Operators Why agentic operations

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Optical Modules Market Research Report 2034

Optical modules, which encompass transceivers, cables, amplifiers, splitters, and associated components, serve as the backbone of high-speed data transmission across data centers,

720-core triple-network integrated sc full-configuration ...

Remember the first time you took over the renovation of the community optical junction box? three tables - china mobile 144 cores, china telecom 288 cores, and china unicom 144 cores, all

China Top 10 Fiber Optic Cable Manufacturers in 2025

The fiber optic cable industry in China has solidified its position as a global powerhouse, driving the expansion of high-speed networks, 5G

ITALY SELLS CHINA UNICOM FIBER OPTIC CABLES

SEARCHED FOR: ITALY SELLS CHINA UNICOM FIBER OPTIC CABLES PM Modi inaugurates first ever submarine optical fibre cable project for Andaman & Nicobar Islands 10 Aug,

China Unicom Unveils Token Economy Strategic Layout

China Unicom has built a "Three-in-One" centralized Token operation system, centered on a national computing power network, a unified computing network scheduling platform, and a unified

Key undersea cable makes HK touchdown

China Unicom said the ALC features the world''s first adoption of intelligent optical network submarine cable scheduling. Together with the SEA-H2X cable — which landed in Hong Kong in

Building AI-Optical Network to Drive New Growth in the AI Era

Participants shared practical experiences in new services like ultra-gigabit/10 Gbps packages and network-computing integration. At the summit, Huawei unveiled 10 AI-Optical Network

Related Video Reference

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

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Additional source notes

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