

Article Overview

China Unicom is actively deploying advanced fiber optic networks, including submarine and terrestrial cables, using cutting-edge fiber technologies like G.654E and hollow-core fibers to enhance high-speed connectivity.

Submarine Cable Projects

China Unicom is constructing a nearly 3,000-kilometer submarine optical fiber cable from Hong Kong to Sihanoukville, Cambodia, known as the SEA-H2X cable. This project, scheduled for completion in 2025, will connect multiple regions including Hainan, the Philippines, Thailand, Malaysia, Singapore, Vietnam, Cambodia, and Indonesia, strengthening international communication and digital infrastructure collaboration with Cambodia and other countries . Additionally, China Unicom is involved in a \$500 million undersea cable network linking Asia, the Middle East, and Europe, highlighting its strategic role in global data transmission .

Terrestrial Fiber Deployments

China Unicom has successfully deployed G.654.E "Large Effective Area Fiber" (LEAF) in trunk cables across Xinjiang and Shandong, tested in harsh environments such as deserts and snow-covered mountains. These cables, developed in collaboration with suppliers like YOFC, support high-speed transmission and have been verified for reliability and adaptability . The company has also trialed hollow-core fiber optic cables for commercial use, providing enhanced transmission performance while maintaining compatibility with existing networks .

Advanced Fiber Technologies

China Unicom is actively testing and deploying ultra-low-loss, large-effective-area optical fibers to support 400G backbone networks. These fibers improve transmission distance and system capacity by reducing optical attenuation and nonlinear effects, which are critical for high-speed data networks . The company collaborates with major domestic and international fiber manufacturers, including YOFC, Hengtong, FiberHome, SEFC, ZTT, Corning, and Sumitomo, to ensure the deployment of next-generation optical fiber technologies .

Strategic and Technical Considerations

- o Network Expansion: China Unicom operates over 20 terrestrial optical fiber border stations and 10 global submarine cable landing stations, connecting China with more than 10 neighboring countries .
- o High-Speed Transmission: The use of G.654.E and hollow-core fibers allows for low-loss, high-capacity transmission, suitable for 100G and beyond-100G networks .
- o Global Collaboration: Submarine and terrestrial projects often involve partnerships with international operators and suppliers, ensuring compliance with ITU-T standards and global interoperability . China



China Unicom lays fiber optic cable

Unicom's fiber optic initiatives demonstrate a comprehensive approach to expanding both domestic and international high-speed networks, leveraging advanced fiber technologies to meet growing data demands and enhance global connectivity.

China Unicom is a leading Chinese telecommunications provider specializing in fiber optic solutions, 5G networks, and high-speed

Chinese state-owned telecom firms are developing a \$500 million undersea fibre-optic

China's international interactions, requirements on its networks" ability to provide global services, and both opportunities and

State-owned telecom firms in China are developing a \$500 million undersea fiber-optic internet cable network to

2025.10.30253Font size: Hengtong, in collaboration with China Unicom, has successfully deployed and begun operating China

Recently, the first new global carrier "Large Effective Area Fiber" (LEAF) (ITU-T standard code G.654.E) fibre cable

Reuters says China's state-owned telecom firms are building a \$500 million fiber-optic internet cable network on the

SUZHOU, CHINA-- (Marketwired - Aug 18, 2016) - World's first carrier-class "large-effective area fiber" land optical cable project, in

China United Network Communications Group Co., Ltd., doing business as China Unicom, is a Chinese state-owned

Following the successful completion of the first global carrier class "Large Effective Area Fiber" land cable engineering test of China

China is already close to full fiber coverage, but achieving "full-fiber readiness" by 2030 requires converting millions of

The nearly 3,000-kilometer submarine optical fiber cable will run from Hong Kong to Sihanoukville in southern

China Unicom lays fiber optic cable

This design supports compatibility with current networks while utilizing hollow-core fiber to enhance transmission

This procurement involves hybrid optical cables containing hollow-core fiber, along with fiber splicing and termination

The Sihanoukville-Hong Kong Submarine Cable connects Sihanoukville, Cambodia and Hong Kong, spanning approximately

China Unicom Group, one of China's major telecommunications operators, has revealed plans for the construction of a nearly 3,000

Web: <https://www.kremgroup.co.za>

