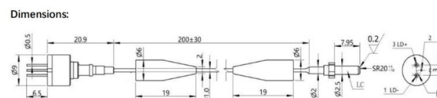


How to lay the China-Africa optical cable



AI Overview

Laying a China-Africa optical cable involves careful planning, subsea cable deployment, and integration with landing stations using advanced submarine cable technology. Planning and Route Survey Before laying the cable, a detailed marine survey is conducted to map the seabed, identify obstacles, and avoid areas of high risk such as underwater volcanoes, shipwrecks, or fishing zones. The route is carefully designed to minimize environmental impact and ensure long-term reliability. For the 2Africa project, the cable spans 45,000 km, connecting 46 landing stations across 33 countries in Africa, Europe, and Asia . Cable Design and Technology Modern submarine cables use optical fibers encased in protective layers, often with an aluminum conductor for durability. The 2Africa system employs Space Division Multiplexing (SDM1) and Wavelength Selective Switching (WSS-ROADM) technology, allowing flexible bandwidth management and high capacity, up to 180 Tbps across 16 fiber pairs . Cable burial depth is increased to protect against anchors and trawling. Deployment Process Manufacturing and Loading: The cable is manufactured in long sections and loaded onto specialized cable-laying ships. Laying the Cable: The ship slowly moves along the pre-surveyed route, paying out the cable onto the seabed. In shallow waters near coastlines, the cable may be buried using ploughs or jetting tools to protect it from damage. Landing Stations: At each landing site, the cable is brought ashore and connected to a cable landing station, which houses equipment for signal amplification, switching, and integration with terrestrial networks . Testing and Commissioning: After deployment, the cable undergoes rigorous testing to ensure signal integrity and operational reliability. Optical amplifiers and repeaters along the route maintain signal strength over long distances. Consortium and Coordination Projects like 2Africa involve multiple international partners, including China Mobile International, Meta, Vodafone, Orang...

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[2Africa International Submarine Cable Project: Building an Information ...](#)

The project aims to deliver high-speed and stable Internet connections to 33 countries by deploying advanced submarine optical cable technology. As a key partner, China Mobile has

[20 Largest Fiber Optic Cable Companies in... | AIMIFIBER](#)

This updated list ranks the 20 largest fiber-optic cable companies worldwide and Learn more from AIMIFIBER — fiber optic manufacturer since 2008.

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The 2Africa cable will be integrated into STC's MENA Gateway (MG1) datacentre in Jeddah, enabling customers to access our extensive international content and extend their regional connectivity

[Submarine Optical Fiber Cables Market by Deployment and Global ...](#)

The submarine optical fiber cables market has several key applications: communication, light energy transfer, and other specialized uses.

[List of terrestrial fibre optic cable projects in Africa](#)

[Map of active and planned African undersea fibre optic cables, as of September 2025](#)
This is a list of terrestrial fibre optic cable projects in Africa.

[Announcing the Completion of the Core 2Africa System:](#)

We deployed advanced spatial division multiplexing (SDM) technology, supporting up to 16 fiber pairs per cable. This is double the capacity

[Genew Technologies to lay 1,700 km of fiber along the Congo River bed](#)

The government of the Democratic Republic of Congo (DRC) has signed a Memorandum of Understanding (MoU) with Chinese telecommunications and infrastructure firm Genew Technologies

FAQ | 2Africa Cable

The cable will incorporate optical switching technology to enable flexible management of bandwidth, increased cable burial depth by up to 50% compared to older systems, and routing to avoid locations

Fiber Active Optical Cable Market Analysis: Trends, Share ...

The Fiber Active Optical Cable Market prioritizes cost control and efficiency enhancement. Additionally, the reports cover both the demand and supply sides of the market.

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March 2025 | The GEOPOLITICS OF SUBSEA Data CABLES

This paper recommends two strategies to enhance the resilience of Africa's network of undersea cables: implementing redundancy measures and establishing a new harmonized governance approach at

2Africa Submarine Cable's Core Infrastructure

This initiative aims to build a leading regional international submarine cable connectivity that covers Africa while extending its influence to Asia-Pacific

Digital Silk Road: How China is empowering Africa's digital future

China has partnered with African nations to lay fiber-optic cables, construct data centers and build satellite communication networks over the past decade.

Fiber Optic Connectivity Market Share & Forecast, 2026-2033

The fiber optic cables segment is expected to account for 36.0% of the global fiber optic connectivity market share in 2026. The global fiber optic connectivity market is dominated by fiber

Africa Digital Corridor 2026: A Multi-Billion Dollar Opportunity For ...

In the first half of 2026, the 2Africa submarine optical cable system, with a total length of approximately 45,000 kilometers and a designed capacity of up to 180Tbps, will be completed. This

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Fiber Optic Cables for the Last Mile Market 2025-2030: Industry Sees ...

The report delves into recent significant developments in the Fiber Optic Cables for Last Mile Market, highlighting leading vendors and their innovative profiles.

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