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Mauritania Air-blown Optical Cable Construction



Overview

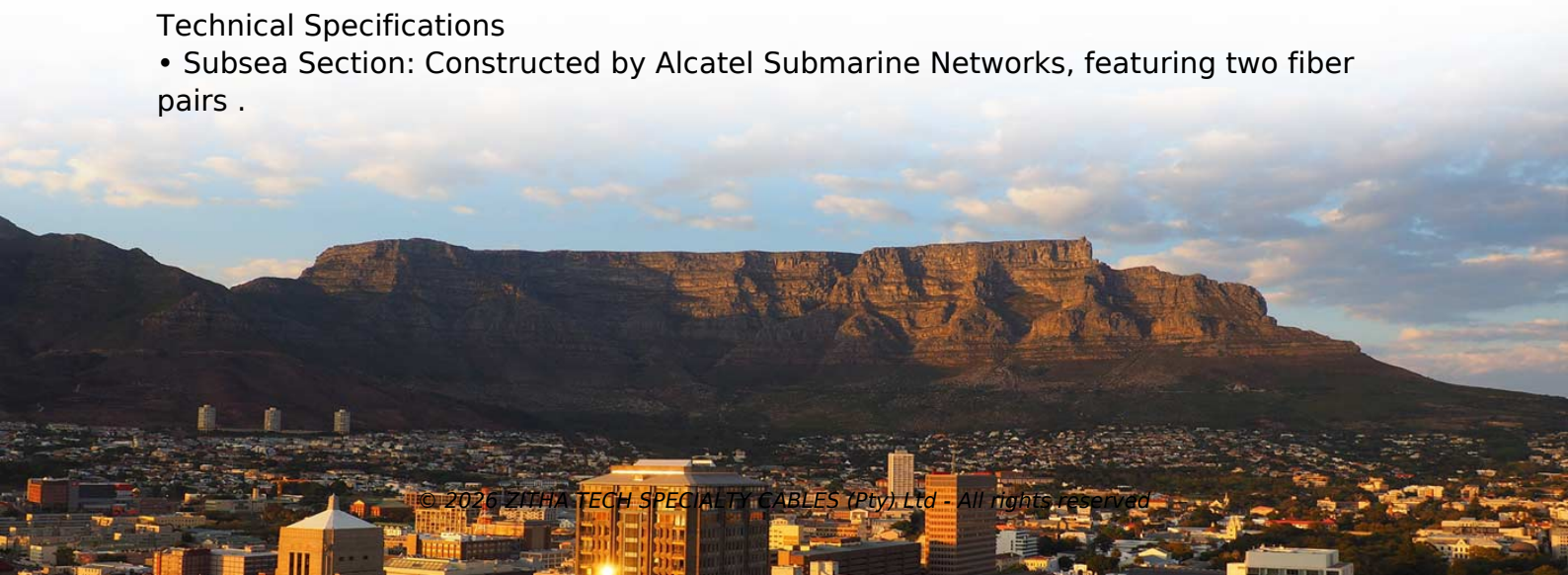
There are two basic methods of cable installation in a preinstalled duct – Pulling method and Blowing method.

Key Takeaways

Mauritania is constructing a new high-capacity subsea optical cable branch connecting Nouadhibou to Madrid, Spain, using advanced air-blown fiber technologies and ROADM WSS optical systems.Project Overview

Mauritania's Ministry of Digital Transformation and Administrative Modernization (MTNMA) has partnered with EllaLink to build a second international subsea fiber optic connection, diversifying the country's connectivity beyond the existing ACE (Africa Coast to Europe) system . The project includes a 500 km subsea branch from a new Cable Landing Station (CLS) in Nouadhibou, Mauritania's second-largest city, linking directly to EllaLink's transatlantic infrastructure and ultimately to Madrid, Spain .

Technical Specifications
• Subsea Section: Constructed by Alcatel Submarine Networks, featuring two fiber pairs .



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• Optical Technologies: Incorporates ROADM (Reconfigurable Optical Add-Drop Multiplexer) and WSS (Wavelength Selective Switch) branching units, enabling dynamic wavelength routing, flexible bandwidth management, and efficient network scalability .

• Air-Blown Fiber Potential: While the project primarily uses subsea fiber, air-blown optical cable technology can be integrated in terrestrial segments to allow rapid deployment, modular expansion, and easier maintenance of fiber strands within ducts. This approach supports future capacity growth without extensive civil works.
Capacity and Performance

The new infrastructure will provide an initial 200 Gbps low-latency direct circuit between Nouadhibou and Madrid, with capacity designed to scale over the next 25 years . This direct link reduces dependency on regional intermediaries, enhances network resilience, and supports Mauritania's digital transformation strategy.

Strategic and Economic Impact
• Digital Transformation: Strengthens Mauritania's access to European internet exchanges, enabling faster, cost-effective international connectivity .

• Economic Resilience: Reduces the risk of disruption to the national economy by providing a diverse, redundant international link .

• Long-Term Growth: Positions Mauritania as a more connected digital hub in West Africa, supporting e-government, fintech, and other digital services .
Project Timeline and Funding
• Construction Start: Already underway, with completion expected early 2027 .

• Funding: Total project cost is €29.5 million, supported by the European Investment Bank and the European Commission's CEF Digital program, which contributed €9.6 million .

• Operation & Maintenance: Managed by EllaLink, ensuring long-term sustainability and carrier-neutral access .
Conclusion

The Mauritania air-blown optical cable construction, as part of the EllaLink subsea project, represents a major leap in international connectivity, combining advanced optical technologies with strategic infrastructure planning. It will provide high-capacity, low-latency, and resilient connectivity to Europe, supporting the country's digital economy and long-term technological development.

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This goal was achieved through the deployment of approximately 1,700 km of fiber optic cable, thus allowing

Installation of Optical Fiber Cable by Blowing/Jetting

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ABSTRACT This application note discusses fiber optic cable installation by blowing technique, the factors effecting blowing

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Essentially there are three meth-ods of installing optical fiber: 1) Conventional cabling through which optical fiber cable is pulled by

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What is an Air Blowing Micro Fiber Optic Cable: The

Air blowing micro fiber optic cable has revolutionized the way fiber optic networks are

Future-Proofing with Air Blown Fiber | Machine Design

Air blown fiber. ABF refers to the use of compressed air or nitrogen to literally blow lightweight optical fiber cables

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Mohamed Abdallahi Ould Louly, the Mauritanian Minister of Digital Transformation, Innovation, and Administrative

Blown Fiber Installation: Essential Guide & Expert Tips

During the installation, compressed air is utilized to blow the fiber optic cables through these microducts, eliminating

Mauritania: ZTE completed construction of Mauritania''s national fiber ...

The Mauritania national fiber optic network was built as part of the regional communications infrastructure program in

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The air blown fiber system is to pre-lay special fiber-blown micro-tubes and accessories in the

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What Exactly Is an Air-Blown Micro Optic Fiber Cable? Transceivers using air-blown fiber, or the non-intrusive variant

Duct Cables | Air Blown Fiber Optic Cable Ducts | Corning

Ducts (or conduits) offer a highly protective environment for fiber-optic cables. They are typically buried, and then the cables are air

How to Choose the Right Conduit for Your Fiber Optic ...

The conduit protects the fragile fiber optic cables from environmental factors and physical damage, ensuring their longevity and

Construction of a Datacenter in Nouakchott, Mauritania | EEAS

The project is part of the West African Regional Communications Infrastructure Program (WARCIP), co-financed with

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