



Aginode LIGHTDROP

Enabling Scalable FTTH Rollouts in Africa.

www.aginode.net



Part 1: FTTH rollouts in Africa.

Access to reliable, high-speed internet is no longer a luxury but a fundamental enabler of economic growth, education, healthcare, and social inclusion. Across Africa, the demand for connectivity is surging as governments, businesses, and communities recognize its transformative potential.

Fiber-to-the-Home (FTTH) technology stands out as the most future-proof solution to deliver this connectivity. However, deploying FTTH at scale in Africa presents unique challenges that require innovative approaches and strategic partnerships.

The strategic Importance of FTTH

Africa's digital economy is expanding rapidly. E-commerce, mobile banking, telemedicine, and online education are reshaping how people live and work. Yet, these services depend on robust broadband infrastructure. While mobile networks have driven connectivity in the past decade, they cannot fully meet the growing demand for bandwidth-intensive applications. FTTH offers unparalleled speed, reliability, and scalability which are critical for bridging the digital divide and supporting long-term development goals.

Geographic and demographic complexity, including vast rural areas, low population density, and challenging terrain, drives up the cost and complexity of network deployment.

Internet penetration

70%
40%



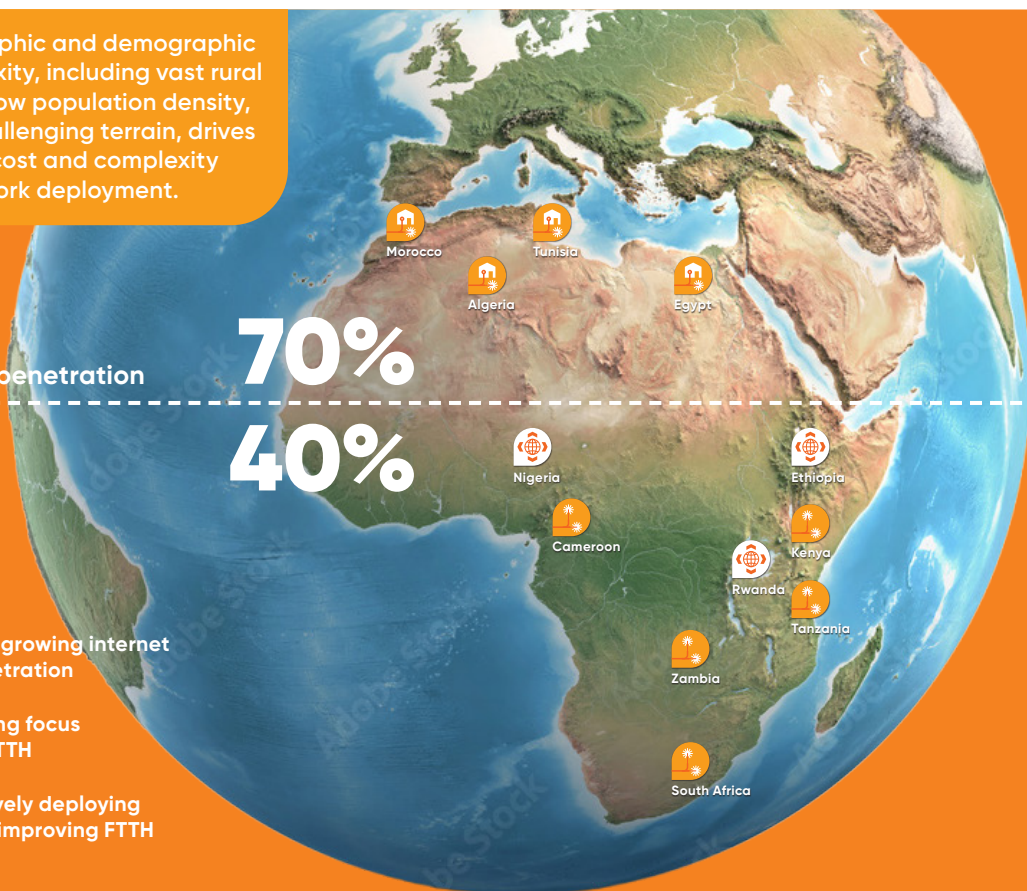
Fast growing internet penetration

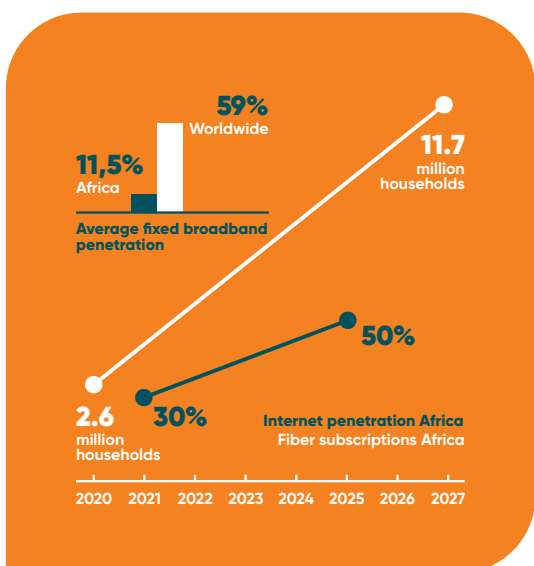


Strong focus on FTTH



Actively deploying and improving FTTH





Key numbers underline the urgency:

- Internet penetration in Africa reached 50% in 2025, up from 30% in 2020, representing 600 million users. However, fixed broadband penetration remains among the lowest globally, averaging 11.5% household penetration, compared to 59% worldwide.
- Fiber subscriptions grew 44% year-over-year in 2021, yet only 2.6 million households had fiber connections at that time. Projections suggest 11.7 million fiber subscriptions by 2027, still far below global averages.

Key challenges in African FTTH deployment

Despite its clear benefits, FTTH rollout in Africa faces significant hurdles. The continent’s geographic and demographic complexity, including vast rural areas, low population density, and challenging terrain, drives up the cost and complexity of network deployment.

- **Civil works costs are particularly high**, often accounting for 60–70% of total deployment expenses, especially in greenfield projects.
- Additionally, there is a **shortage of skilled labor**, as fiber installation traditional architectures require specialized technicians for splicing and testing.
- Supply chain constraints and inflation have further impacted on the **availability and affordability of fiber components**.
- Finally, **regulatory challenges and funding gaps** continue to delay projects, making large-scale FTTH deployment a persistent challenge across the region.

Lessons from global best practices

Operators in Europe and Asia have faced similar challenges during their FTTH journeys. Key lessons include:

- **Pre-connectorization helps.** It reduces installation time and minimizes reliance on skilled labor.
- **Modular network design** for scalability and phased investments.
- **Strategic partnerships** with investors, utility companies, between suppliers of the different network elements and local contractors to optimize workflows across the board.

Case studies highlighting these approaches

- Under Morocco’s Digital 2030 strategy, the goal is to increase the number of fiber-ready households from 1.5 million in 2022 to 5.6 million by 2030.
- Algérie Telecom surpassed 2.5 million FTTH subscribers, setting a North African record. Its fiber network now delivers speeds up to 1.5 Gbps, positioning Algeria among Africa’s fastest-growing fiber markets.
- Orange Group invests €1 billion annually in Africa and the Middle East, with plans to connect 800,000 additional households to fiber by 2025.

Technology as an enabler

Innovation is the cornerstone of overcoming deployment challenges. Pre-connectorized solutions, hardened connectivity, and plug-and-play architectures are transforming how networks are built. By simplifying engineering and installation, standardizing materials and reducing the need for complex network operations, these technologies lower costs, accelerate deployment, and improve reliability. These are critical factors for success in Africa.

Aginode’s perspective

At Aginode, we believe that connectivity is a catalyst for progress. Our approach combines manufacturing, global expertise and local insights to deliver solutions tailored to Africa’s realities. By leveraging advanced technologies and robust product ecosystems, we aim to empower operators to deploy FTTH networks faster, more efficiently, and at scale.

“ At Aginode, we believe that connectivity is a catalyst for progress.”

Part 2: A Purpose-Built Solution for Africa's FTTH Rollouts

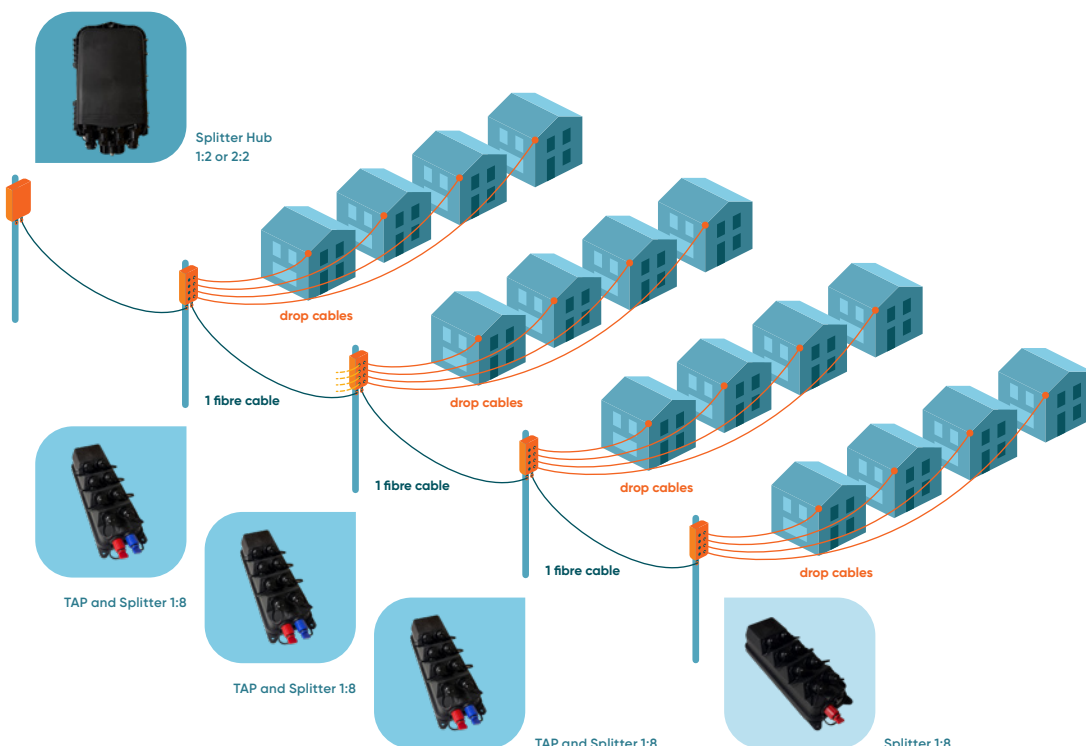
The LIGHTDROP Ecosystem

Aginode's LIGHTDROP product family is designed to address the unique challenges of FTTH deployment in Africa. It combines pre-connectorized hardened solutions with modular flexibility, enabling operators to accelerate rollouts, engineers to design flexible networks, reduce costs, and overcome skill shortages. The ecosystem supports both Single Dwelling Units (SDU) and Multi-Dwelling Units (MDU), ensuring adaptability across rural and urban environments. Aginode offers exceptional speed and efficiency, thanks to pre-tested, pre-connectorized components that significantly reduce installation time and minimize the need for intensive specialized labor. Its modular design ensures scalability and flexibility, enabling phased deployments and seamless network evolution. Engineered for reliability in harsh environments, it features IP68 watertightness, IK08 shock resistance, and UV protection, making it highly durable and well-suited for Africa's diverse and challenging climates.



1. LIGHTDROP SPLICE (Hub)

This closure is designed to provide flexibility for network reconfiguration and growth, featuring a splice capacity of up to 48 fibers, splitter capacity for up to 4 units, and hardened connectors for robust performance. These capabilities enable operators to initiate TAPs branches across diverse scenarios and implement various splitting strategies, supporting scalable and adaptable network architectures.





2. LIGHTDROP L (TAP & Splitter)

Designed as an outdoor terminal for distribution and customer connection, this solution features hardened quarter-turn connectors compatible with Huawei systems, supports up to 10 ports per terminal, and offers IP68 sealing and UV resistance for robust environmental protection. These features collectively simplify customer activation, eliminating the need to reopen closures and streamlining field operations.

3. LIGHTDROP XS (TAP)

This tiny terminal is a flexibility enabler, offering a compact design (193x100x54 mm) that supports up to 3 hardened adapters. Its form factor and capabilities make it especially suitable for integrating indoor terminals within a TAPs line but also splitter terminals with various splitting ratios that can be installed afterwards to postpone the investments. It effectively addresses the connectivity needs of MDUs and SFUs in underserved areas.



4. FLOORDROP (Indoor/Outdoor Terminal)

This floor box is designed for indoor and outdoor installations in MDUs, offering IP65 protection and standard SC/APC connectivity. It supports plug-and-play activation, with optional pre-tailed boxes that simplify even more the deployment. By maintaining the plug-and-play philosophy and enabling seamless TAPs integration, it streamlines installation in buildings and reduces engineering complexity across multiple use cases.

5. Pre-Connectorized Drop Cables

The Aginode's PCDC portfolio enables end-to-end connectivity with minimal field intervention, featuring both hardened and standard connectors suitable for indoor, aerial and underground applications, and supporting multiple cable types. With local production in our Moroccan factory, it eliminates the need for splicing, accelerates deployment, and reduces skill requirements, making it a highly efficient and scalable option for diverse network environments.

Why LIGHTDROP?

LIGHTDROP presents a compelling value proposition for African operators, offering overall reduced CAPEX through lower civil works and labor costs, and enabling faster rollouts with a plug-and-play architecture that cuts significantly installation time. Its use of hardened connectors lowers skill dependency, allowing technicians with basic training to perform installations efficiently. The future-proof design, built around modular hubs and terminals, supports seamless network evolution.

In terms of competitive advantage, while incumbent solutions dominate the African market, LIGHTDROP stands out with its backwards compatible design, enhanced durability, and a comprehensive ecosystem that supports both indoor and outdoor deployments, across SFU and MDU use cases, based on TAP architectures

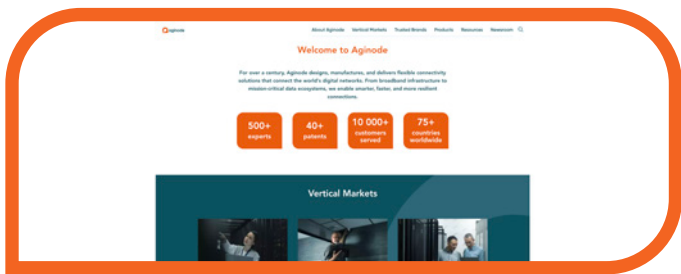
LIGHTDROP is well-suited for a range of use cases: in rural clusters, products like LIGHTDROP SPLICE, L and XS, along with pre-connectorized cables, enable cost-effective coverage. In urban MDUs, FLOORDROP simplifies indoor connectivity and speeds up expansion projects.

Aginode's LIGHTDROP ecosystem facilitates quick and scalable network growth. It is a strategic enabler for Africa's digital transformation. By combining global best practices with local realities, LIGHTDROP empowers operators to deliver high-speed connectivity where it matters most.

#smartconnection



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