

Case Study

Liquid Telecom - A Zambian Success

Location: Zambia, Africa

Date: July 2018

Pioneering the empowerment of pushable FTTP installation in Central Africa.

Background

Liquid Telecom has built Africa's largest independent fiber network, which runs from the north of Uganda to Cape Town, covering Africa's fastest-growing economies, where no fixed network has ever existed before. The network currently spans over 50,000 km across borders and includes The East Africa Fiber Ring, and the first regional fiber ring on the continent and operates throughout Botswana, DRC, Kenya, Lesotho, Mauritius, Rwanda, South Africa, Uganda, Zambia, Zimbabwe and in the UK under a number of different wholesale, enterprise and retail brands.

Liquid Telecom's ground-breaking work was recognized at Capacity Magazine's Annual Telecoms Industry Awards when they were named Best African Wholesale Carrier six years in a row. They have also gained recognition at the AfricaCom Awards, SatCom Stars Awards and the Global Telecom Business awards.



Product Used

- ✓ Miniflex® fiber cable
- ✓ 2-fiber cable
- ✓ 5 & 8 mm microduct
- ✓ Indoor customer termination box

Synopsis

Installing 2-Core fiber to the home (FTTH) in challenging environmental conditions, while meeting tough business case targets and tight deployment timescales.

Run Lengths

25 to 1,600 m



Pushable pre-terminated Miniflex® fiber cable

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Benefits

- ✓ 5x faster deployment time
- ✓ 10x stronger fiber protection
- ✓ Removal of need for skilled technicians
- ✓ More robust, easier to handle cable
- ✓ Lower capex than traditional installations
- ✓ Completely compatible products

Scenario

Liquid Telecom Zambia's deployment followed successful networks in Zimbabwe, Kenya and Rwanda. It sets the standard for the design, implementation and execution of FTTH networks in Africa. It is transforming the landscape in Lusaka, with expectations to pass more than 20,000 homes by the end of 2018. Additionally, it plans to expand the network nationwide.

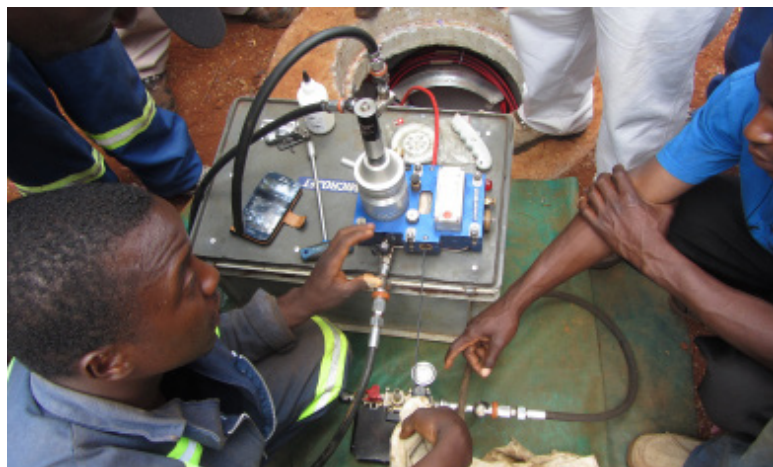
Traditionally, Liquid Telecom, as well as many other FTTH operators around the world, has selected the preferred FTTH deployment methodology and designed its networks around these concepts. Zambia is no exception, as the Liquid Telecom expansion continues.

Spurring from its Pan-African backbone, the intention was to deliver up to 100 Mbps connection speeds to its customers. And, as with any FTTH network, the key is gaining the first-to-market advance. So, speed was of the essence - without having to sacrifice quality and performance.

Liquid Telecom had to put in place its fiber network via installers that were used to handling copper. This drove a demand for high-quality components that were designed for straightforward installations. These would in turn empower the installations by de-skilling the installations process.

FTTH Scope

Liquid Telecom adopted the traditional methodology of using blown fiber. Installation distances from the manholes to premises varied from 25 to 1,600 m (25 to 5,249 ft). Often, there were many ducting joints; this meant the Miniflex® drop cable had to be tough, flexible and lightweight, to cover these distances.



Miniflex® cable being pushed through 5 & 8 mm microduct over distances greater than 150 m

The drop cable had to be able to withstand the tough demands of the Zambian environment - yet blend into the customer's home without the need for extra trunking. Therefore, Liquid Telecom standardized on the white 2-Core Miniflex®, which offers an unrivalled 3,500N crush resistance, combined with 5x installation bend radius - yet weighs less than 8 kg (17.6 lb) per km (3,281 ft) per kilometer. The clean white color blends into most homes.

Selecting the Miniflex® fiber optic cable allowed Liquid Telecom and its installers to benefit from the unique performance and concept of pushable FTTH installations, pioneered by PPC Broadband. This further empowered the local contractors to increase installation efficiency by up to five times.

Hand pushable Miniflex for FTTH installations

PPC has FTTx solutions designed to overcome the issues surrounding the last drop. Pushable fiber cable can be pushed manually or using lightweight hand-held equipment, from the premises to the cabinet, or vice versa.

"We specifically designed the Miniflex cable for the last-drop in and around the premises," explains Simon Roberts, Sales Director for Africa and the Middle East at PPC. "And then introduced the notion of hand-pushing to the Liquid contractors to speed up the installation process. Within just 30 minutes' training they were pushing distances exceeding 150 m and doubled the number of daily installations."

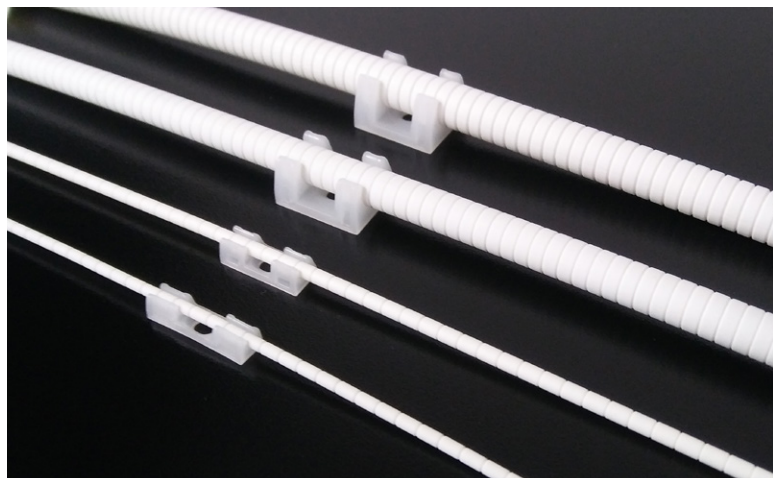
Unlike other solutions, it has the advantage of causing minimum disruption to the customer. It also removes the need for operators to invest in expensive equipment; this is key to empowering the installation teams, which benefits all parties.

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“I wanted my contractors to have a tough drop cable that would withstand not only the challenging environmental conditions of installing at the home premises, but also to overcome the installer skill levels in handling fiber,” comments Marc Edwards, Senior Project Manager at Liquid Telecoms in Lusaka. “Other drop cables came close, but we found the unique flexible hinge technology that Miniflex® offers dramatically improved the installation process and reduced the short term repair and maintenance costs to practically zero where once they had been as high as one in ten installations.”

It was imperative to have a cable that was lightweight, to avoid having to strengthen the existing posts, or the business model would not be scalable. This is a common problem that is not too often overlooked by operators and leads to deployment delays and up budgeted overspends.

“Once the distribution cable had been deployed it was imperative that Liquid Telecom quickly connected end users in order to rapidly expand their footprint and to maximize their return on investment,” says Roberts. “All our FTTP customers to date have found that being the first to market was key to their success and by selecting Miniflex fiber cable they were able to increase installation efficiency by up to 5 times, something no other fiber cable can offer.”



Miniflex® cable with hinge technology offering unique strength and flexibility

Liquid Telecom is Africa’s flag ship FTTH network that is benefitting from the latest cutting-edge innovation of next generation fiber optic cable, combined with the world’s leading plug-and-play technology. This will see data speeds in excess of 100Mbps to each home and give Liquid Telecom the first-to-market edge that supports the adoption of high-quality materials that carry a 25-year performance certificate.

“PPC has been supplying Liquid Telecom Zambia for almost 4 years now with great product and support,” outlines Edwards, “and it’s the one area of my network where I have total trust in the product and the ability of my contractors.”

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Miniflex® fiber cable’s groove technology makes it quick and easy to push through the microduct of a FTTH installation