

DRC inventor has a solution to get rural Africa emailing

Consider how email has changed the world. It is estimated around 269 billion emails are sent daily, with the average office worker receiving 121 every 24 hours. But for some - especially in many parts of Africa - email technology is just not attainable.



Nzola Swasisa. Credit: True Africa.

The cost of data (which is higher in areas with poor infrastructure) makes emailing unaffordable for large groups of people – essentially excluding them from many digital benefits. However, one inventor from the [Democratic Republic of Congo](#) believes he has developed a device that can make emailing over 100-times cheaper than it would be via cellular networks.

Nzola Swasisa is a radio communications technician who has spent years installing telecommunications infrastructure in remote parts of Africa for NGOs. The experience exposed him to the challenges facing information and communication technology on the continent (mainly the cost of erecting [infrastructure](#) across vast areas of land) as well as its transformational potential for communities.

“During that time I saw both the beauty and need of communications,” he recalls.

“[South Africa](#) is more developed, but in most other countries in sub-Saharan Africa people didn’t even have phones in their houses because the landline infrastructure was just not good enough.”

Although mobile technology leapfrogged the lack of landlines, he was concerned that internet usage remained low despite many having the tools to access it.

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“In the Congo, only 3.8% of the people have internet, but yet 35-40% are using cellphones. That is a big gap and I

questioned why... I tried to figure out why all these cellphone companies were providing internet, but people were not accessing it, especially emails. And I realised that it was too expensive because sending an email eats data quite quickly,” he explains.

“Over half of the population live on US\$1.15 a day, and 1MB costs about \$0.60 in the Congo. So why would anyone spend half their money on data when they could buy food?”

Inventing a solution

In 2010 Swasisa started working on a low-cost email solution while living in Canada. After a few prototypes, he came up with a device, called Lokole, that enables emailing in places where there is already cellular coverage, but at a fraction of the network’s normal data costs.

The device acts as a modem and up to 100 users (within a 25 metre radius) can connect to it. Once plugged into a power source, it creates a local wifi network. When a device connects to this network, the user is instantly navigated to the Lokole email application where they can sign up for an email address, and then start emailing. To reduce data consumption, emails are compressed and only sent and received during scheduled times.

Swasisa, with the help of Clemens Wolff, a software engineer, developed an easy-to-use interface for the email platform, which has been translated into three languages spoken across Africa: French, English and Lingala. Unlike some other email platforms that require data to load in a browser, the Lokole interface can be accessed offline.

According to Swasisa, it can reduce the daily cost of emailing to \$0.01 per person, depending on how many users are sharing the costs.

Swasisa says he is targeting Lokole at NGOs and government entities which can utilise the solution to run hospitals, rural clinics, schools and business centres. Traders and smallholder farmers in rural areas can also use the service to grow their businesses, access markets, and increase their revenues.

Don’t limit yourself

Swasisa, who was one of the 10 finalists for the 2017 Innovation Prize for Africa, developed the hardware and software behind Lokole by utilising resources available to him.

His advice to aspiring innovators is not to be put off from solving problems in fields they may not be experts in. “Just look at the problems within your community – it might be technology, agriculture, or any part of day-to-day life. You don’t have to be specialists in each of these problems... You can seek out people who are [experts in these fields] to help you,” he adds.

“As an innovator you should not be limited by yourself and what you know. Once you see a problem, you can always go talk to someone with the knowledge of how to solve it.”

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