



AS OF JANUARY 2020,
THERE WERE

36,54 MILLION

internet users in South Africa
= 62% of the country's population.
This is an increase of 1.1 million
(3.1%) since January 2019.¹

In South Africa, lower income users
purchasing small pre-paid data
bundles can pay as much as

100x more than higher
income users on
24 month contracts.²

V-NET has established
24 access points (APs) in
Lotus Park and Harare,
with many more to come.

In January about

60 000 visits used the 24
VNET Access Points

in Lotus Park, Harare and Monwabisi
Park. VNET is busy being expanded
to about 80 Access Points by end of
April 2021.

Bridging the digital divide

The digital divide in South Africa
has been made even more apparent
during COVID-19, as internet access
has become essential to everyday
tasks such as education, work,
community organisation and
communication. But internet access
is unequally distributed - poorer

communities in South Africa do
not have access to affordable and
quality internet connection, while
wealthier neighbourhoods benefit
from copper infrastructure or fibre.
As a result, many South Africans
rely primarily on mobile data to
access the internet.

"South Africa has one of the most
expensive data prices in the world,
even when adjusted for cost of living.
To put this into perspective, India
only charges R11 for 1GB, Nigeria
charges R22, Ghana R71, Russia R24
and Vodacom in Tanzania charges
R98 for 1GB but R149 in South Africa."³

V-NET: Connecting communities through infrastructure

Communities have been wanting a
solution to find affordable internet
access in especially low income
communities in Cape Town. V-NET
is a wireless community network
which began in March 2019 as a mesh
network bringing internet connectivity
into the areas that VPUU serves. In a
partnership with local communities
and the City of Cape Town. Wakoma
Incorporated and BQuest have helped
co-design, deploy and manage the
network since its inception. Initially
the network was intended to provide
connectivity and support for various
VPUU programmes and offices,
but it has since grown and recorded
about 60,000 visits in January 2021
alone in several townships and
informal settlements.

Once the project gained momentum it
became clear that V-NET could expand
to bring affordable internet access and
offline services to other low-income
areas in Cape Town. The network is now
operational in Harare, Monwabisi Park,
Lotus Park (Gugulethu), and Siqalo.

At the core of V-NET is a server that

runs a locally developed platform
and hosts free and open-source
local services and content for the
community. The V-NET network
branches out from here through
a web of backbone antennas that
send the signal over longer distances.
From there, the signal travels through
a mesh of interconnected access
points (APs), to which community
members and VPUU staff and partners
can connect and access both the
internet and the local content and
services.

By building a microwave backbone
back to data centres, V-NET is
taking on the infrastructural costs
to reduce the costs of data in low
income neighbourhoods. Since the
very beginning of V-NET, community
members have participated in the
planning of the network and its
actual construction - from crimping
and running network cables, to wiring
batteries, to mounting solar panels
and aligning antennas.

Serving local content

V-NET users connected to the network
at the same time, can video chat with
each other (with a clear picture and
no stuttering) completely offline, for

free. They can send large files, stream
or download educational videos, take
eLearning courses, create documents
and spreadsheets, and play games.
All completely offline, for free. Traffic
flowing within the network does not
count against the internet bandwidth,
which is how we can offer this all for
free. For users that want to connect to
the internet, they are able to do so with
a few hundred MB per day per person.

V-NET is undergoing a wide expansion
and developing methods of replicating
V-NET in additional communities.
The V-NET team is currently building
the V-BOX, a localized version of an
open source Nimble hardware⁴, to
seed the network in townships and
settlements in which there is little to
no connectivity infrastructure.

