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ITSO-UCC-INTELSAT PILOT FOR REMOTE CONNECTIVITY IN UGANDA

Using Off Grid Small Cell Technology



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UGANDA PROFILE

-  The Republic of Uganda is found in East African located in the Great lakes region in the Nile basin.
-  **Population:** 39 Million
-  **Area:** 241,038 sq km
-  **Mobile Subscriptions:** 24.9 Million
-  **Mobile internet subs:** 10m i.e.25% of population)
-  **Teledensity:** 64%



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THE UGANDA COMMUNICATIONS COMMISSION- UCC

Regulator of Communications in Uganda
established by an Act of Parliament in 1998
after liberalization of sector, 20 years!



Rural Communications Development Fund (RCDF)

A USF administered by UCC

RCDF Mission: To ensure, through targeted Interventions, that location, physical inability, gender, and cost are not barriers to access to broadband for any sector of Uganda's population.

The focus for RCDF (2017-2022) is Broadband Connectivity & Access



UGANDA PROFILE

Uganda's National Broadband strategy target is 100% connectivity for Urban and 50% connectivity for rural by 2020

Broadband for Uganda means robust connectivity that's affordable, always on and delivers a minimum of 3Mbps.



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National Broadband Strategy connectivity targets

	2016	2017	2018	2019	2020
Urban	15%	25%	40%	60%	100%
Rural	1%	5%	15%	30%	50%

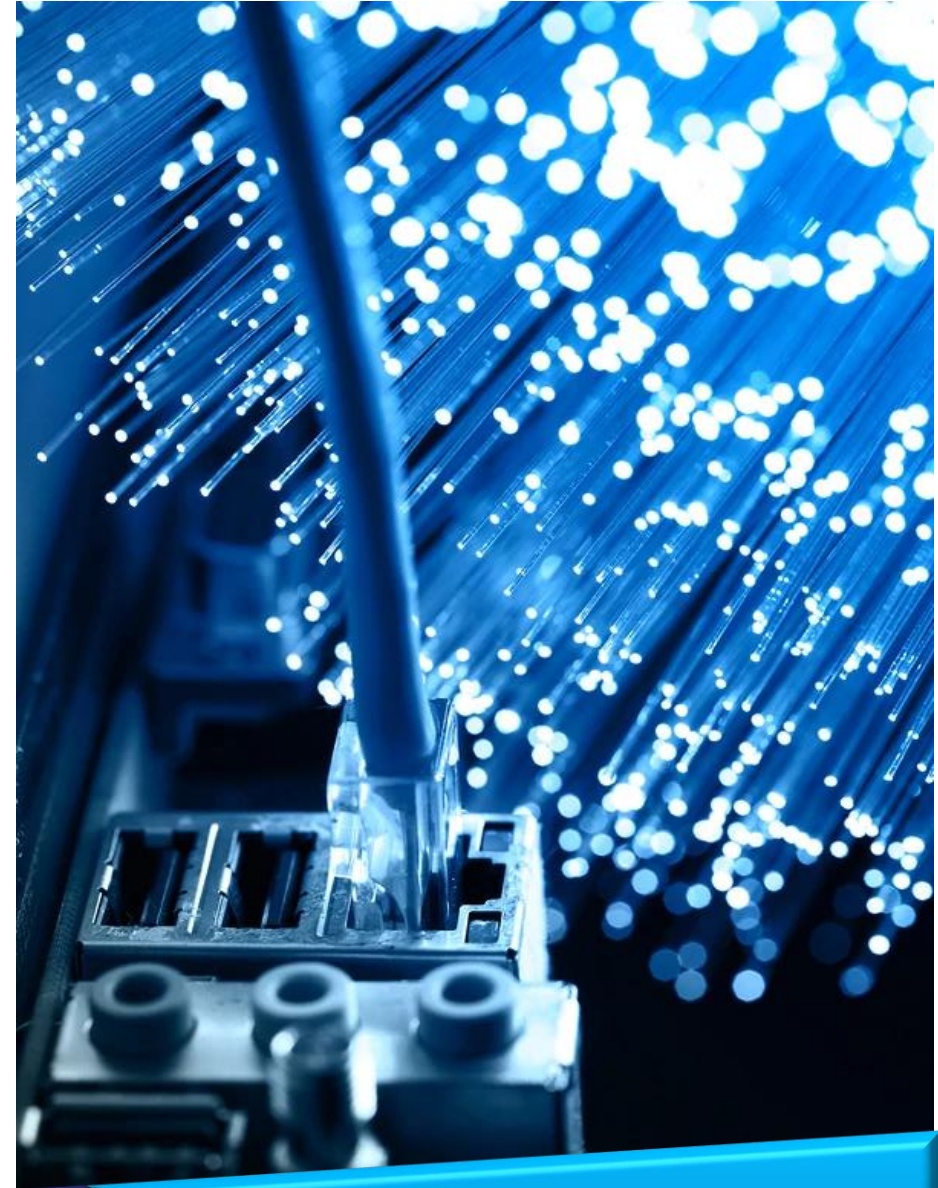


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UGANDA'S BROADBAND CHALLENGES

About 19% of Uganda's population don't have access to basic telephony either due to lack of connectivity or because they can't afford it

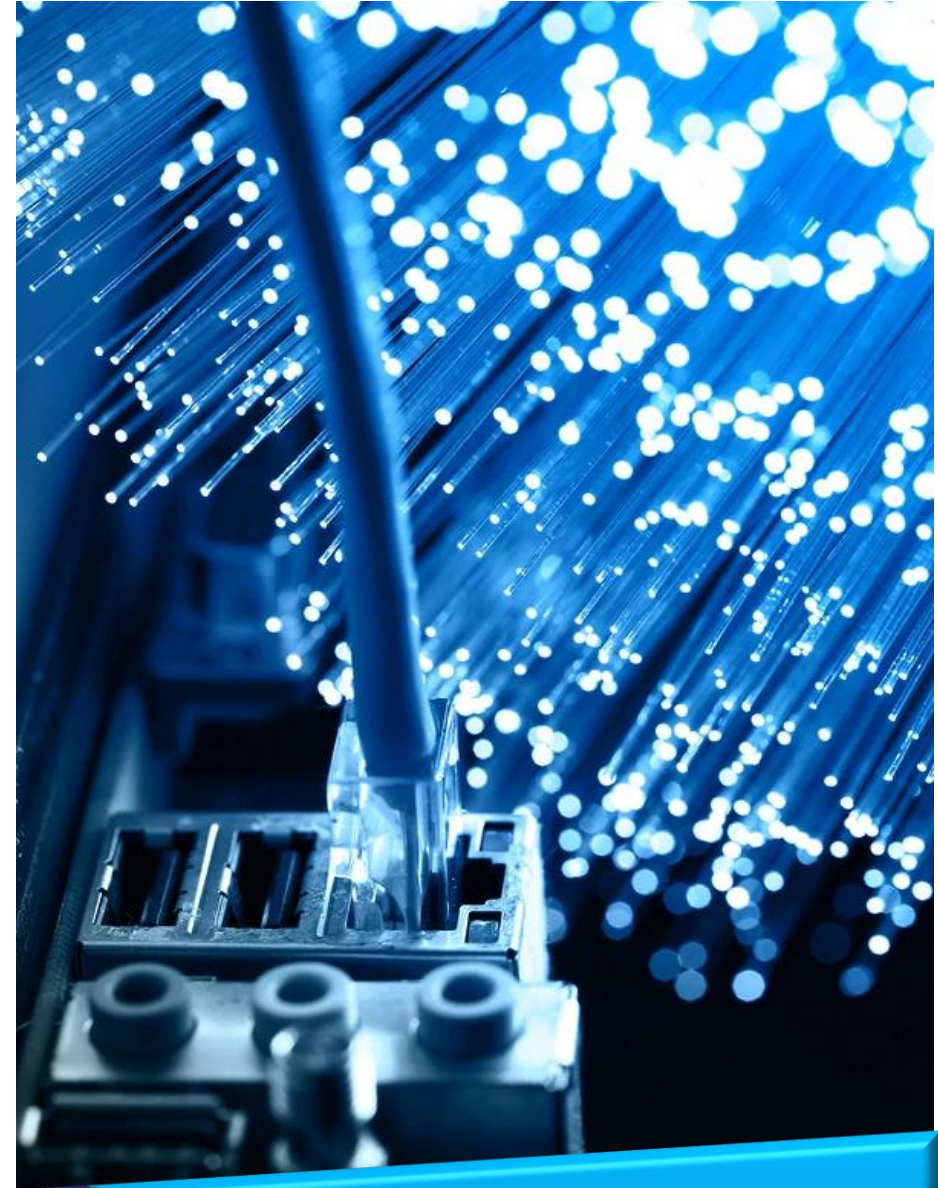
73% of the Population don't have access to broadband due to lack of connectivity or due to cost (Handsets & Subscription)



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UGANDA'S BROADBAND CHALLENGES

- ✍ Cost of handsets
- ✍ Limited technology literacy
- ✍ Language
- ✍ Physical disability
- ✍ Illiteracy
- ✍ Packaging of content



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ITSO-UCC-INTELSAT PILOT FOR REMOTE CONNECTIVITY IN UGANDA

A joint project by ITSO, UCC, Intelsat and Gilat.

Aim is to provide broadband connectivity to two remote locations in Uganda on a pilot basis and as a proof of concept on the use of satellite technology.



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PROJECT OBJECTIVES

-  Demonstrate the technical feasibility and ease of deployment of satellite in addressing the identified needs
-  Investigate the commercial viability and sustainability of a satellite based solution
-  Demonstrate the social – economic value to individuals, government and business realized from providing broadband connectivity to rural areas;
-  Identify the bottlenecks to sustainable broadband connectivity to rural and remote areas;
-  Create an opportunity for capacity building in satellite communications.



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PROFILE OF RUBANDA

- ✍ Rubanda is a district located in the southwest Uganda with a population of over 196,000
- ✍ The site was built in Bufundi county, Kishanje parish at location without any MNO signals
- ✍ The district has an elevated altitude, with volcanic mountains and hills. Lake Bunyonyi, the second deepest lake in Africa, is found here.



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PROFILE OF NTOROKO

- ✍ Ntoroko is a district in western Uganda with a population of over 67,000 people.
- ✍ Found west of the Rwenzori mountain
- ✍ The district headquarters didn't have any MNO signals until this project



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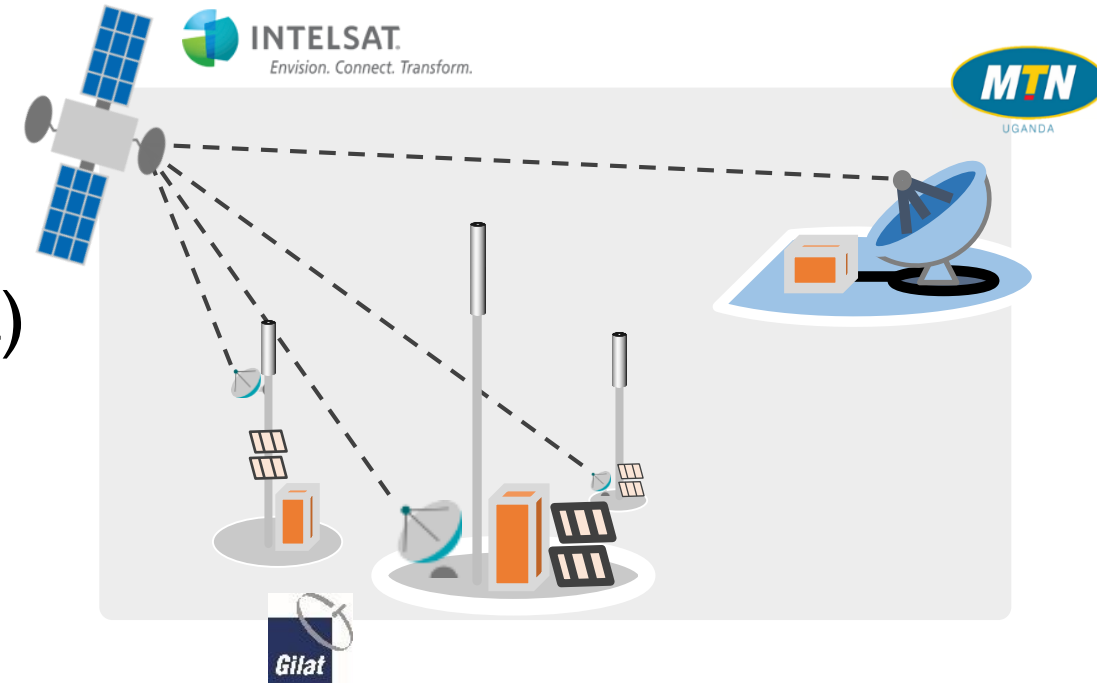
ITSO-UCC-INTELSAT PILOT CONNECTIVITY IN UGANDA PROJECT

- ✍ The system uses the “IntelsatOne Mobile Reach Solar 3G” solution
- ✍ Managed small-cell package to enable efficient MNO 3G expansion into rural and remote areas
- ✍ Uses Intelsat satellite for backhaul



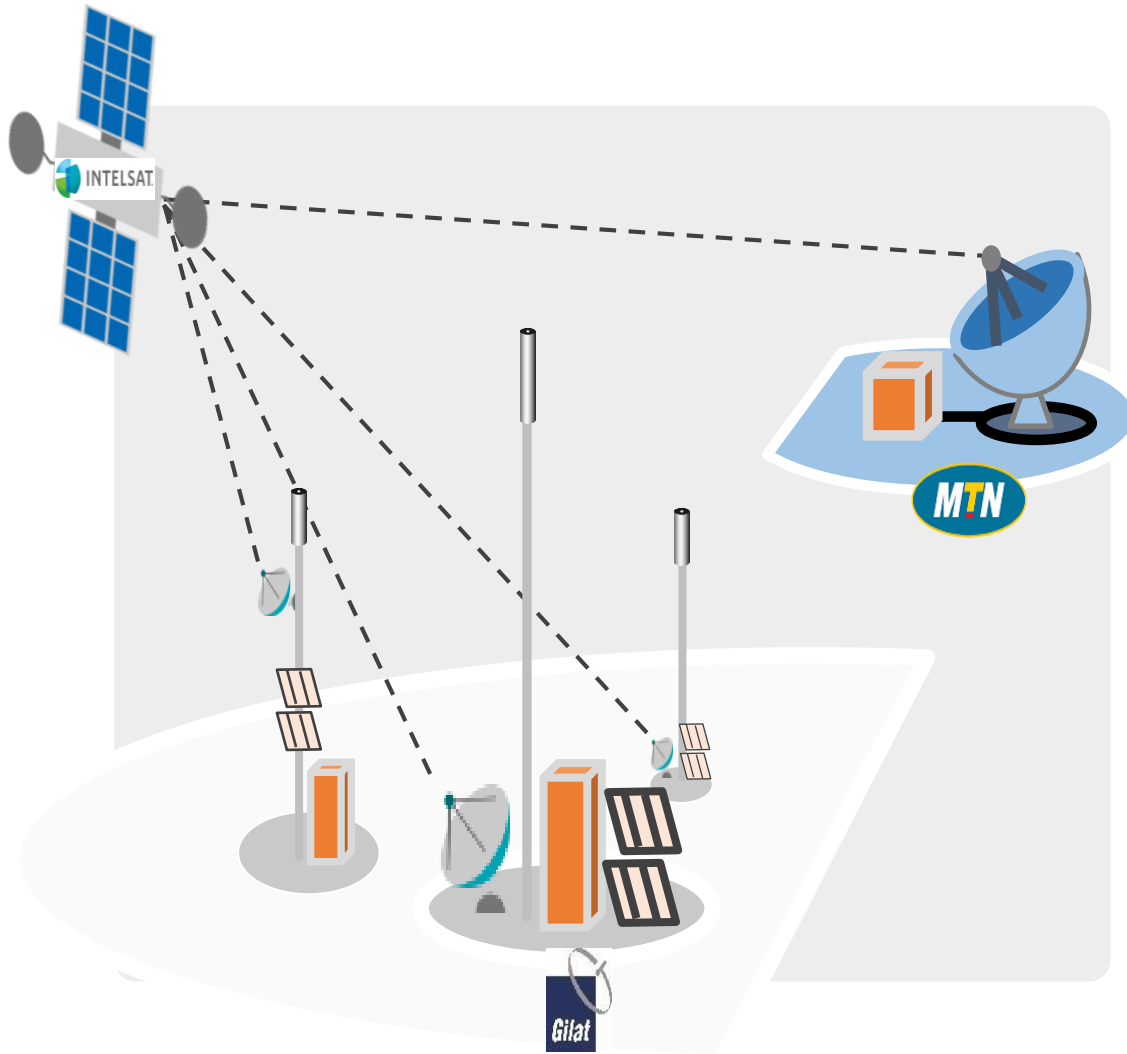
INTELSATONE MOBILE REACH SOLAR 3G

- ☑️ Turnkey cell-site solution with Intelsat and Gilat for off-grid areas
- ☑️ One integrated & optimized solution
- ☑️ Can Support 2G, 3G & LTE (voice & data)
- ☑️ Standalone solar power with 2 days autonomy
- ☑️ 2.5km-radius coverage area with a 20m pole



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SYSTEM DEMONSTRATION



MTN Teleport , Mbuya



Remote site in Ntoroko



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LESSONS LEARNT FROM THE PILOT

- ✍ The sites built are 3G only, and thus feature phones cant use them. People in the areas find smart phones costly
- ✍ Solar can reliably provide power needs of such small cells
- ✍ Community in need of connectivity can provide free land and other support for the purpose

Rubanda remote station



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LESSONS LEARNT FROM THE PILOT

- 📝 Quick Deployment, integration and commissioning
- 📝 The two months trial period is too short to have any meaningful impact assessment.

Rubanda remote station



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RCDF INITIATIVES TO COMPLEMENT THE PROJECT

Donation of Computers to
Ntoroko district offices

Donation of ICT labs to nearby
schools, one in Rubanda and
one in Ntoroko



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RCDF INITIATIVES TO COMPLEMENT THE PROJECT

Set up of a WiFi hotspot in the vicinity of Ntoroko district Hqs to encourage community members to access internet.

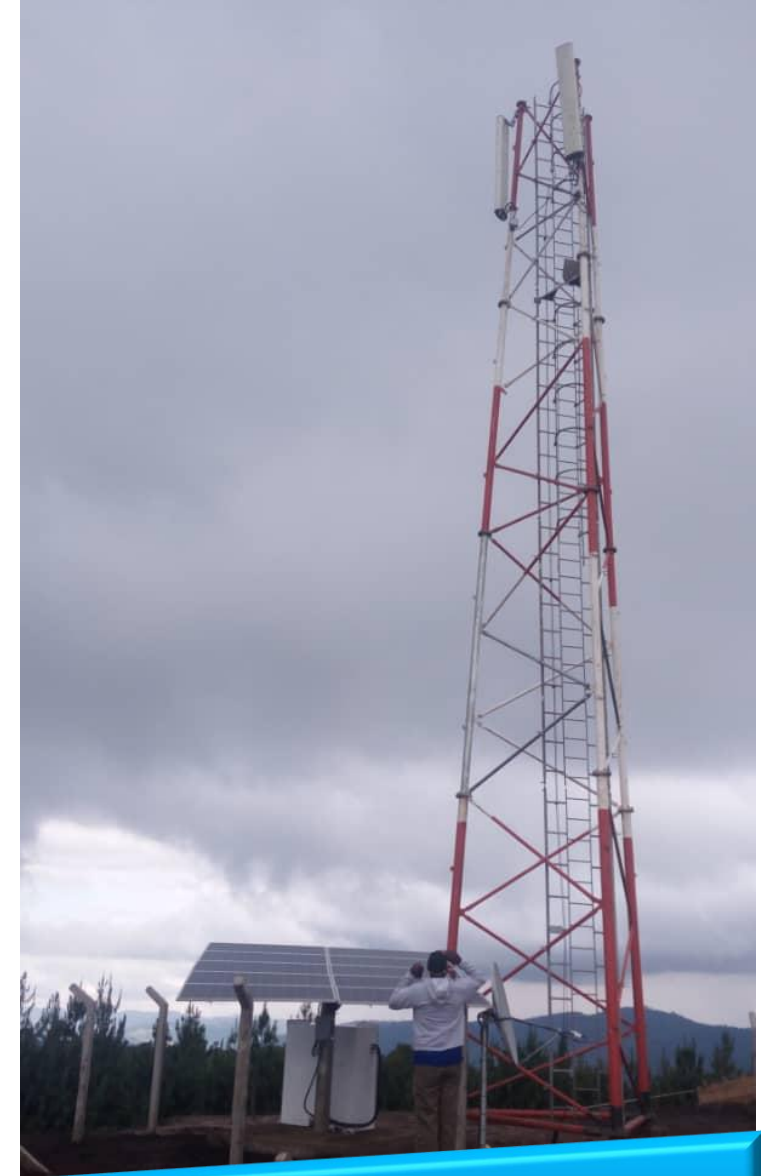
RCDF is considering subsidizing smart phones for project area residents by paying 50% of the cost for a smart phone being offered by a MNO (MTN-U) which costs about \$40 on the market



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CONCLUSION

The project needs to be sustained for at least a one year period to appreciate the social economic benefits of broadband in these areas which didn't have any network coverage prior to this project



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THANK YOU



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