

Fostering Digital Inclusion

VNL helps reduce the divide between urban and rural Peru by bringing connectivity to its villages.



Plagued by difficult terrain, Peru has struggled to establish rural connectivity across its villages. Over time, the digital divide between the urban and rural areas has remained unbridgeable.

With VNL's rural network solution, the nation finally has a suitable answer. Voice and data connectivity is now available to everyone.

Summary

Try defying the harsh topography of the Andes and the Amazon to build a mobile network and you will realize it is an uphill task. Given the daunting terrain of the mountains and the swamps of the world's largest river, deploying a mobile network using traditional methods in rural areas of Peru has proven difficult. This has kept most of the mainstream operators from extending mobile services to low-density, remote areas of Peru, leaving regions such as Sierra and Selva with near-zero connectivity in an otherwise hyper-connected world.

Like many developing countries, Peru faces significant barriers to improving access to mobile connectivity. Poverty, limited levels of digital literacy, and the high cost of mobile subscription are a few challenges to start with. But rough topography matched with low density of population tops the list. The resultant poor business case discourages most mobile operators from setting up networks in rural Peruvian regions.

VNL, working with MayuTel, has been able to overcome topographical and business challenges of Peru's highlands and jungles to set up a resilient, all-weather mobile network in a very short time.

The Problem

Because remote areas in Peru are peppered with sparse population, they fail to make a viable business case for private telecom companies. Just the cost incurred while setting up the site would drive up the cost of mobile subscription to a price most people in remote areas can't afford to pay.

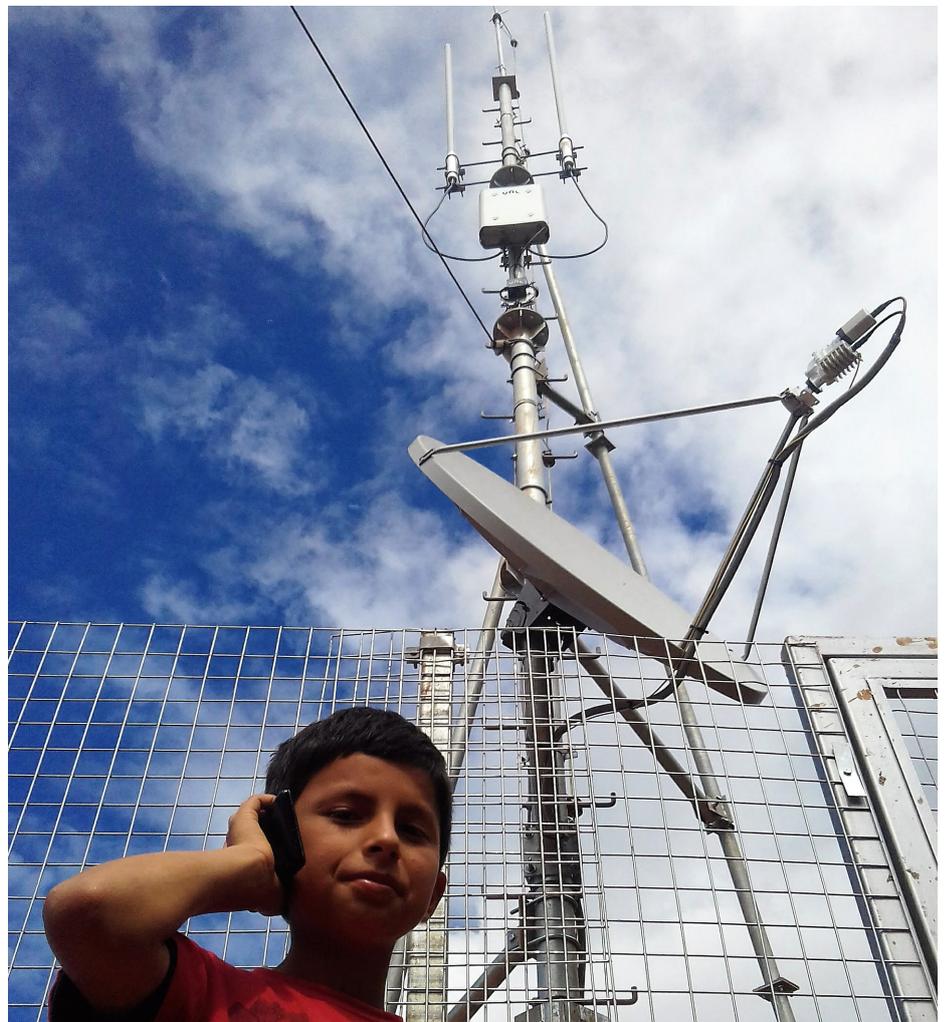
Which is why tele-density has always diverged between urban and rural areas of Peru. While the urban mobile penetration surpasses a whopping 117%, the rural penetration is a measly 54.3%.

The Cusco highlands, for instance, home to 4.2% of the population, have just 4% share of mobile connections, nationwide. And the Amazonas (in the jungle) account for a meager 0.9% of mobile connections catering to a population of 1.4%, as per Instituto Nacional de Estadística e Informática (INEI) and OSIPTEL estimates.

It's safe to say that a fifth of the population has no mobile connectivity at all, while many Peruvians, especially urban dwellers, have multiple mobile subscriptions.

The Opportunity

To bridge the dramatic connectivity divide plaguing the country, the Peruvian government announced a connectivity model designed especially for underserved rural areas that has given rise to the Rural Mobile Infrastructure Operator (OIMR).





Impact

200+

CONNECTED VILLAGES

100,000+

CONNECTED CITIZENS

100

SITES DEPLOYED

200

HOURS OF
CONVERSATIONS EVERYDAY

“We were looking for a robust infrastructure but one that could also be deployed quickly, without the need to install expensive hardware and elaborate infrastructure such as gen-sets & air conditioning. With the ability to run on solar energy at the heart of their solution, along with low OPEX and CAPEX, VNL’s solution fit our needs just right.”

Omar Tupayachi,
Executive President, MayuTel



The OIMR model helps strengthen competition and expand the market for public mobile services in underserved rural areas. As per the regulation, any entity that wants to provide mobile telephony in rural Peru can obtain an OIMR license and negotiate a revenue sharing arrangement with an existing telecom operator to extend mobile network connectivity to rural areas. While the OIMR invests in the infrastructure, the mobile operator’s network and spectrum becomes available to subscribers in places with hitherto near-zero service.

OIMR is a vitally important fix for the Peruvian connectivity problem. It has opened avenues for rural connectivity for players like MayuTel - the first telecommunications operator to register for the license. Thanks to OIMR, the entry of more, new mobile operators willing to serve rural and remote areas of the country is now imminent.

But for MayuTel, functioning as an OIMR meant that they needed infrastructure that was optimal for rural connectivity with QoS (Quality of Service) standards that was in line with the world’s best.

In short, they needed a solution with the following characteristics:

- Deployable without the use of heavy equipment
- Easy to operate, with low maintenance
- Uses low satellite bandwidth
- Runs on minimal power that can be generated sustainably
- Has low operating expense (OPEX)
- Has low capital expense (CAPEX)

The Solution

In VNL’s rural network solution, MayuTel found a system that fulfilled all its requirements and brought about a paradigm shift in how mobile network sites are usually deployed world-wide. VNL’s solution has cut-through the rugged topography of the Andes, to be installed swiftly using unskilled, local resources

and it runs on reasonably low power, even on alternative energy, yet performs at par with a traditional telecom site. All 100 connected communities now enjoy dedicated voice and data coverage.

VNL’s deployment has helped reduce capital cost per subscriber for MayuTel while slashing network operating expenses, making mobile network services affordable for rural communities. Low satellite bandwidth consumption clubbed with reasonable power bills ensures that MayuTel achieves an ARPU of \$4-\$6 – a healthy figure for multiple mobile network sites operating in rural areas with a population of around 300-400 people per village.

Benefits

With VNL’s rural network solution as the backbone of Peru’s first OIMR project, MayuTel has set up a robust, functional mobile network infrastructure in 100 rural locations across Peru. The highlands of Apurimac, Ancash, Ayacucho and Cusco all the way to the Amazon regions of San Martin and Ucayali today enjoy complete cellular coverage - something that was earlier unthinkable for the now-connected population of 100,000.

Families across rural communities of Peru can now keep in touch with members who migrate for work or studies to different regions or countries. E-commerce opportunities are unfolding quickly for farmers and budding entrepreneurs alike. Agriculturists now have a viable sales process where they call ahead and co-ordinate the sale of their farm produce.

Mobile-first applications like e-Banking, e-Health, e-Governance and e-Education are simplifying lives across village. Active mobile connectivity now attracts public service workers like teachers, doctors and nurses to these communities where their services are needed the most.

About VNL



VNL makes the award-winning WorldGSM™ system, a sustainable, turnkey GSM and broadband solution specifically for rural and remote locations. It also makes a range of privately owned and managed GSM & broadband network solutions for specialized applications such as secure communication platforms for homeland security, communications for remote industrial centres and rapidly deployable networks for disaster and emergency situations.

VNL's pioneering work has been widely praised. During Mobile World Congress, 2010, in Barcelona, VNL was the recipient of GSMA's 2010 'Green Mobile - Best Green Programme Product or Initiative' Award. VNL was also named a 'Technology Pioneer 2010' by The World Economic Forum. In addition, VNL was named the third most innovative company, and the most innovative telecom company in the world, in the Wall Street Journal's annual Technology Innovation Awards in 2009.

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