

Bringing Vital Communications to Remote Rural Communities

“The Morningstar controllers were selected because they are tropicalized and allow modularity during installation and for their ease to integrate into the customer’s ethernet network for monitoring.”

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Solar Energy Engineer

Summary

- Telecommunications services play an increasingly important role within developing countries.
- Many countries now consider access to reliable cell phone coverage for households and businesses a major public policy goal.
- It is fundamental for social inclusion of individuals, and increases the economic development and success of a region.

Situation

It took fifty years from its invention for the telephone to become an indispensable part of American society, and another 25 years for it to penetrate the majority of homes. That growth was all accomplished through the expansion of vast copper-wire networks.

Today, rather than wait the better part of a century to repeat the process, developing countries are leaping past wired networks and going straight to wireless technology in order to modernize. That phenomenon is why many experts believe the mobile phone is the most powerful technology for ending poverty.

Peru is case in point. For many Peruvians living in rural areas, there is no access to cell service. If they are lucky, they can walk to a pay phone, usually quite a distance. The lack of quick communication and time and money spent traveling has a negative effect on the well-being of communities throughout Peru, especially in more remote areas.

Project

The Fitel Centro Norte y Fitel Centro Sur initiative was introduced by the Peruvian government to reduce the gap in access to telecommunication services in rural areas. The project was financed by the Ministry of Transportation and Communications in Peru. CIME Comercial S.A. was hired to design and install a standalone photovoltaic (PV) battery-based, solar-powered solution for the Very Small Aperture Terminal (VSAT) network. VSAT is a two-way satellite ground station with a dish antenna.

The Morningstar components in the eight systems include one TriStar 60 solar controller, three TriStar 60 MPPT solar controllers, two Relay Drivers, one Remote Meter and one MeterHub. Enclosed in a shelter along with batteries and solar modules, this system technology is bringing communication to places where the electric grid is unable to reach.

Morningstar controllers are highly suitable in the telecommunications field, with most meeting stringent US FCC Class B specifications. Low noise design and proven reliability under extreme temperature and environment conditions, with no cooling fans required, make it the preferred choice for systems that are often located in hard to access remote areas. Applications include repeater stations, base transmission stations (BTS), two-way radio, telephone exchanges, rural telephony, VSATs and satellite earth stations.

Solution

The completion of the telecommunications systems in Peru directly resulted in an increase in the satisfaction and well-being of the rural communities. Farmers with mobile phones can instantly access the price of the day— follow market trends and find relevant information of best practices for their zone and type of crop. Whereas it could take hours for that same farmer to reach a financial institution or ATM to process a financial transaction, it becomes instantaneous using a banking application on their mobile phone.

Thousands of lives are saved with the introduction of cell phones each year as rapid diagnosis and second opinions from around the world are accessed by healthcare professionals. Educators and community leaders use apps for e-learning and students can bridge the digital divide.

The daily lives of Peruvians have been improved in the ability to speak to relatives, acquire supplies or arrange transportation. They can develop quick solutions to their needs - increasing the speed of information, ultimately reducing costs and improving communication - positively affecting the general welfare of an entire community and a country.

