

Superior Essex High Performance Cables Help Republic of Panamá Expand Communications Services

Combination of Outside Plant Copper and Fiber Cables Bring High Speed Voice and Data Signal to Remote Areas of Panamá



Difficult terrain and the harsh climate mandate a variety of connection strategies to expand telecommunications signal in Panamá. This single-lane bridge provides the only access to Gamboa Park, and is shared by both train and car. Its belly edge also provides the delivery of communications conduit, and ultimately basic telephony and Internet signal.

In a battle comparable to David and Goliath, Advanced Communication Network, S.A. is striving to overtake communications giants to become the fastest-growing Internet provider in the Republic of Panamá. Using a combination of Outside Plant copper and fiber cable products from Superior Essex, the small telephone company is inching toward this goal by delivering high-speed signal to remote cities in the country.

The Isthmus of Panamá separates both the world's two largest oceans, as well as North America and South America. For hundreds of years, it served as a transcontinental crossroads, connecting Asia, America, Africa and Europe.

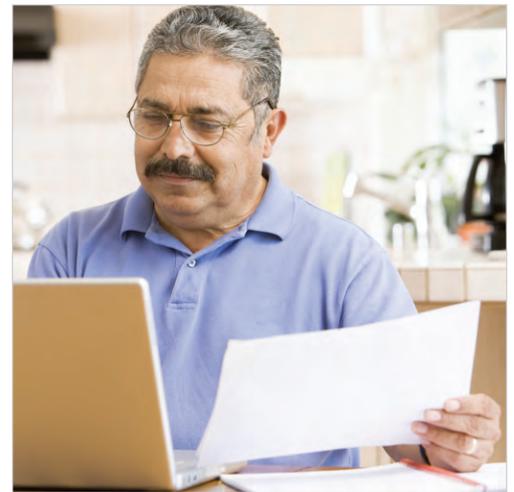
Although Panamá boasts the third largest economy in Central America today, competition to develop in basic telephony



and Internet has been slow. Advanced Communication Network saw this as an opportunity to grow by tapping areas largely ignored by other service and signal providers.

In 2007, the company slightly shifted its focus from selling long distance services (national and international phone service, fax services, calling cards, web hosting and private network installations) to providing Internet signal access to homes and businesses. The expanded focus included hardwired and wireless Internet, VoIP (Voice over Internet Protocol) service, and access to mobile hot spots.

Not-so-far-future plans include delivering IPTV (Internet Protocol Television), which uses digital signal to provide television access over a network, to the company's same service areas using Superior Essex cables.



The Challenge

To achieve these ambitious goals, Advanced Communication Network targeted heavily populated cities from central to western Panamá. Bringing the signal inland from the transoceanic cable in the Pacific Ocean to the cities of Panamá, David, Colón, Santiago and Chitré, where combined more than 1.5 million people live*, would prove to be no simple task. Installers would have to face one huge obstacle - over and over again - the environment.

In Panamá, extreme weather and rugged terrain sets the stage for difficult installations. Here, days are hot (ranging around 90°F practically year-round), humidity is high (always about 80 percent), solar radiation is intense, and a central spine of mountainous terrain and hills stretches throughout the countryside.

Advanced Communication Network knew no run-of-the-mill OSP cable product would suffice. Instead, they needed a combination of cable products that would give the best performance results, allow them to expand services, and withstand the punishment of the unique Panamanian environment.

The Solution

The company didn't have to look far to find a solution. Instead of taking a chance on a manufacturer with whom they didn't have a relationship or have intimate experience using its products, they chose both copper and fiber OSP cables from Superior Essex.

"We are a quality-minded company, and understand completely the need for good materials in our networks," Ramon Madrid, Director of Engineering, Advanced Communication Network. "The technological advantage Superior Essex cables offer allows us to stay ahead of our competitors by providing seamless integration of services across our own networks and leased networks."

The Panamanian company obtained hands-on experience working with Superior Essex products at the Universidad Latina de Panamá where the manufacturer offered a technical training program for installers and contractors. The training program provided an overview of design specifications and standards for structured cabling systems, and teaches participants how to use classroom knowledge and apply it in “real world” situations. Advanced Communication Network chose a combination of aerial and buried OSP products for its network.

On the backbone, Loose Tube Single Jacket All-Dielectric (Series 11) fiber cables were installed as the product of choice to bring the signal from the transatlantic cable to the local access point and deliver it to the remote terminal. What made this cable ideal for the installation is that the loose tube design of the Series 11 cable offers reliable transmission performance in the extreme heat.



Superior Essex Loose Tube Single Jacket All-Dielectric Cable (Series 11)

For the aerial application of bringing the signal from the remote terminal to the pedestal for residential users, SEALPIC®-FSF-84 cables were chosen for fast and easy installation that allowed installers to use standard methods and hardware. A standout feature of this cable is that its core and support members (messenger) lay parallel to each other and form a cross-sectional “figure 8,” which delivers strength to the cable. The messenger is an integral part of the cable sheath, yet readily available for gripping, pulling and tensioning.



Superior Essex SEALPIC-FSF-84 Cable

Advanced Communication Network selected the ADP NMS cable, a PVC-jacketed aerial service wire, to extend telephone service to subscriber premises from the distribution cable or cable terminal. Major features of the ADP NMS cable include small size, light weight and an abrasion resistant jacket.

For the business subscriber, the company selected the UG FTTP (Series 513), an all-dielectric drop cable that offers reliable transmission performance over a broad temperature range. The rugged single loose tube design of the UG FTTP cable features optical fibers placed inside a single PFM™ gel filled tube. (Polymer Filling Matrix (PFM) gel is a non-sticky water blocking material that possesses unique properties that reduce the friction between the buffer tube



Superior Essex UG FTTP Cable (Series 513)

and optical fibers during the tube removal process.) The core tube of the UG FTTP contains up to 12 fibers, which is helically wrapped with water-blocking strength members and encased with a black polyethylene jacket. Ripcords are included to provide ease of access to the core.

The Results

Over the last two years, more than 1 million feet of OSP cable products from Superior Essex have been installed by Advanced Communication Network.

“We wanted a cabling system that would give us the best performance we could buy. We got that and more with Superior Essex cables,” said Madrid.

Having successfully provided Internet and VoIP signal to more than 500,000 residents and business in Panamá, Advanced Communication Network is looking to spread its wings once more. The communications company has plans to piggyback its VoIP signal with IPTV signal in its service area. This development, once completed, will allow television content to be received across the network instead of being delivered through traditional broadcast and cable formats.

**Population projections are from the United States Census Bureau.*

