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Coopeguanacaste Case Study:

Connecting Rural Costa Rica with Fiber

The Challenge

With endless beaches, breathtaking tropical rainforest, and a volcanic mountain range, the Guanacaste region of Costa Rica has long been a favorite of visitors from around the world. However, like many rural regions, Guanacaste's remote location, difficult terrain, and low-density population also meant its residents found themselves living inside the digital divide, lacking reliable access to the internet and the opportunities that it can provide.

About nine years ago, Coopeguanacaste, an electric cooperative that was founded nearly 60 years ago with the mission of providing electric service to rural areas lacking electrical infrastructure, in order to promote opportunity and improve quality of life there, was determined to take up the challenge once again of moving their community forward – this time by providing reliable, high-speed, fiber-based internet to its members.

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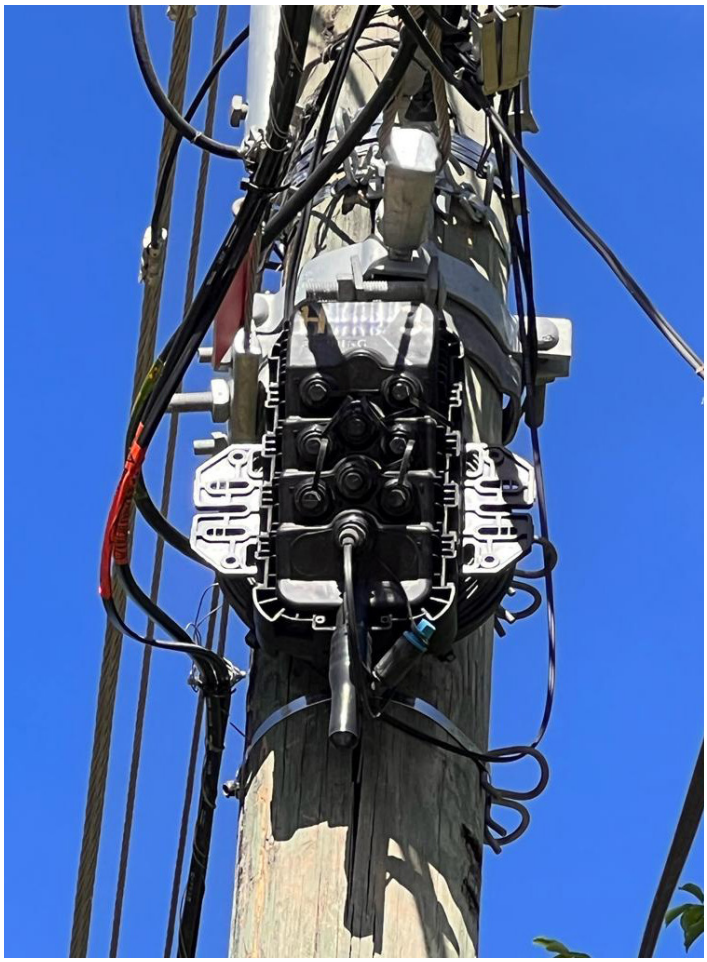
– Gerson Alvarado

When an initiative to deploy a fiber-to-the-home network emerged, it presented Coopeguanacaste with an opportunity to invest in the community while expanding the co-op's services into the telecommunications world. This project quickly became a three-stage initiative. The initial stage was limited to the region's three major cities: Filadelfia, Nicoya, and Santa Cruz. The focus of the second stage was expanding the network along the coastal zone. Once stages one and two were operating and generating revenue, stage three, the most challenging of all, began. This stage focused on: 1) Connecting remote areas within the rainforest region that hadn't yet been considered commercially viable by other service providers due to their low-density population, 2) Covering the 80,000 homes within the coop's original electric program, and 3) Deploying a network reaching public spaces, schools, and additional homes beyond the program's boundaries.

The Solution

In the initial stages of Coopeguanacaste's project, the cooperative chose a fusion-spliced optical solution that integrated a number of Corning components, including ADSS cables, figure-8 cables, and fan-out kits. The extreme difficulty of building a network in nearly 4,000 square miles of remote tropical rainforest – torrential rains, raging rivers, fallen trees, lack of access roads for aerial cable installation – brought about different needs for Stage 2. The team was in need of a quicker, simpler option with lower labor and maintenance costs. They chose a Corning preconnectorized solution, including UCAO terminals (8 and 16 ports), multiport terminals (1:8), and OptiTap® ROC™ drops and jumpers.

According to Gerardo Gutiérrez García, Telecom Manager at Coopeguanacaste, "Because Corning is so well known and trusted for providing innovative, high-quality products, it was easy to get internal approvals to use their preconnectorized solutions."



When their Corning representative first presented the new solution to Coopeguanacaste, the team was hesitant. Says Gutiérrez García: "At first, planning and pre-measuring everything for the network seemed complicated, especially for an unpredictable environment like ours. But when Corning's Applications Engineering and Engineering Services representatives walked us through similar deployments, our perspective totally changed. Even focusing solely on the materials costs of Corning versus another solution we were considering, the results were positive. And once we also took time and labor into account, we determined that Corning's solution was right for us."

Another important consideration for Coopeguanacaste was safety. Because Corning's experts trained the co-op's teams on installing and using the new solution, along with the high-quality of our products and the ease of installation, cleaning, and testing, they could focus less on process and operating issues and more on working quickly yet safely under difficult circumstances.

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Also key for Coopeguanacaste was the significant reduction in consumables and environmental impact that Corning's preconnectorized solution enabled versus the co-op's original fusion-spliced solution. Corning cables are gel-free and made to measure. Because of this, construction teams in the field had less clean-up and waste (excess cable, cable spools, nonreusable towels, and liquid solvents) to manage and remove.

The Impact

Through the infrastructure Coopeguanacaste built, they've been able to close the digital divide, even for the most remote communities, helping connect their members to a world of possibilities. Now, those members can study, research, shop, and create new businesses to grow their local economy, benefits that are only possible with access to reliable high-speed internet.

Gutiérrez García explains: "Working with the Corning team, Corning preconnectorized products, and a PON architecture has been very valuable for us. It helped us to significantly speed up the implementation for Stages 2 and 3. We were able to complete three jobs in the time it would normally take to do just one. Because we were able to deploy so much more quickly, we've been able to capture new customers months before our competitors were up and running. Plus, we've experienced fewer breakdowns than with the earlier portions of our network. When there are issues, we're able to reconnect customers more quickly. We're able to provide a better customer experience at a much lower cost – 30% overall lower than our previous projects."

What would Gutiérrez García say to other companies or communities facing the same challenge? "We are part of a moment in history where the world is in the process of digital transformation. I think investing in a telecommunications infrastructure is one of the best business cases you could undertake at this time." He concludes, "It's critical to work with a company that's a leader in the market, one that has depth of experience, longevity, and proven, high-quality solutions. Corning's support throughout the process has been invaluable. They worked closely with us at every step helping ensure our success."

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To learn more about Coopeguanacaste's project or to schedule a free feasibility study for your own connectivity project, **contact our fiber-to-the-home team**

Learn more about our **OptiTap® preconnectorized solutions**

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