



Broadband connects students, teachers, and new opportunities in rural Colombia

A multi-stakeholder partnership provides high-speed broadband to previously unconnected communities and enables young people to reach their highest educational potential.

In an open-air classroom, a young girl practices her letters while a computer program recites the names of consonants. Nearby, a father and his sons are learning how to operate another computer. Even though a teacher isn't offering lessons in-person, this small community in southern Colombia is continuing their children's education.

This scene would have been impossible a year ago. The mountains and jungles that cover rural Colombia make traditional methods of broadband delivery either impossible or too expensive to deploy. Then the internet service provider (ISP) Anditel, American Tower Colombia (ATC), and the Microsoft Airband Initiative partnered to deliver connectivity—and the opportunities it affords—to ten rural and previously isolated communities.

"Access to education is one of our priorities at Airband," says German Otorala, Latin America Program Manager lead for Microsoft Airband. "That is why schools will always be a hub of connectivity so that students, teachers, and the community in general can make use of internet access."

The problem

Rural areas in Colombia lack access to the internet and, in some cases, cellular service. This was the case in Nariño Department, in southwestern Colombia. Less than one in five households there have internet access, according to [2019 data](#).

On average, people living in Nariño attend school roughly two years fewer than the average Colombian, according to the [Global Data Lab](#). Social distancing measures to slow the spread of COVID-19 worsened students' access to education.

Without cellular or internet service, students in these farming and ranching communities read printed lessons, delivered by teachers weekly, instead of receiving instruction from educators. They traveled several hours to town to contact their teacher via WhatsApp. They couldn't research information needed for homework, and teachers couldn't update curriculum materials.

The partners

A coalition of communications and technology companies determined to bridge the connectivity gap for ten communities in Nariño.

- **ATC** provides the infrastructure needed to mount radio equipment, creating a base and a receiving tower in each of the ten participating communities. It is also donating the first two years of broadband access, 30 computers, and information and communications technology (ICT) training resources for teachers.
- **Anditel** is an Airband ISP partner that uses its more than 40 years of experience connecting the most remote places in Colombia to bring broadband to Nariño schools, utilizing TVWS technology.
- **Microsoft Airband** partnered with ATC and Anditel to accelerate digital equity through broadband access and digital skilling.

“Our vision is to make wireless communication possible everywhere,” says Maria Lorena Villate, manager of public affairs at ATC. “We believe that partnerships with organizations are the best way to do it, with each one contributing its best know-how to help increase digital inclusion.”

The process

ATC was looking for ways to connect under- or unserved communities in Colombia, especially in rural areas.

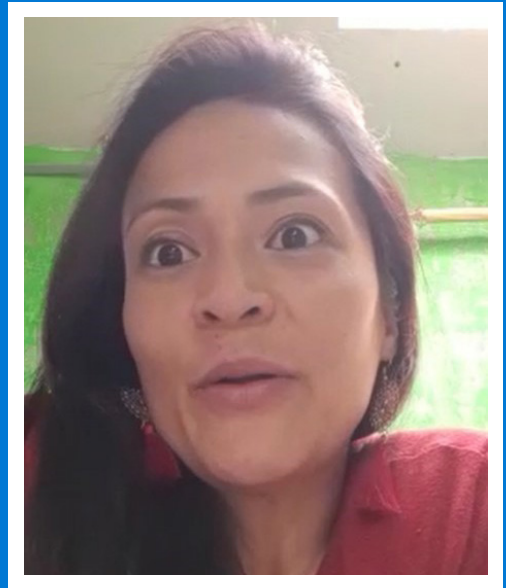
The company learned that Colombia has embraced [TV White Space](#) (TVWS) technology by making needed frequencies available, which ATC could harness with its tower infrastructure.

ATC, Anditel, and Microsoft came together to implement broadband deployments in hard-to-reach areas of Colombia. The group identified education as a focus area for their work, particularly because school-related broadband can catalyze change throughout communities.

The partnership identified Nariño District and designed a network utilizing TVWS that connected all ten schools.

“The world changed a lot during this pandemic,” says Yady Reina, a teacher in Espino Alto, Colombia.

“It is imperative that kids have access to internet even if they are in rural areas.”



The community can now access the internet, which will provide them digital skills and help them stay connected, particularly during the difficult times of the COVID-19.”

Silvana Duque Benedetti, ATC





Students from Espino Alto, Colombia

The impact

Since this project began, the pilot has connected 800 students across 10 schools to high-speed broadband. Their families and the rest of the community can also access the internet in public Wi-Fi hotspots. Connectivity has had enormous impact on the communities' education and beyond.

Live instruction. Before the communities were connected, all instruction and assignments were provided on printed lesson plans. High-speed internet allowed teachers to deliver live instruction and students tune in remotely. "By connecting to the network, I was able to teach my classes, and there are many students taking virtual lessons," Reina says.

Updated curriculum. Connectivity enables the community to refresh educational materials downloaded to families' devices so curricula are always up to date. Internet access will continue to enable students in rural communities to receive the same education as peers in urban centers.

Additional subjects. Now that students' devices can download new material, educators can teach new subjects with the support of internet-based curriculum. In addition, if students outpace the rest of the group, they can access more advanced classes. "Internet access from Anditel not only provides access to the new national curriculum, but also opens a window to so many additional resources we can use to educate students," says Rosario Guerrero, a teacher in Espino Alto, Colombia.

Research capabilities. "Students are eager to learn and discover more through technology," Otalora says. With connectivity, young people can research projects, follow their curiosity, and pursue educational opportunities such as how-to videos and applications for higher education.

Community access. The entire community in each of the ten connected towns can now access broadband for educational, economic, and health-related purposes.

To learn how you can partner with us to close the broadband gap and advance digital equity, visit aka.ms/Airband.