

# Promoting Digital Inclusion in Guanajuato



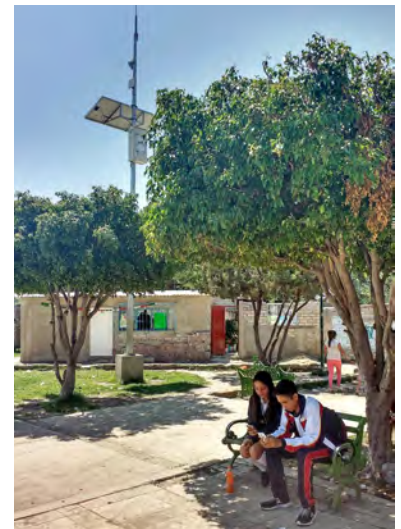
"With the Cambium Networks PMP 450i wireless infrastructure in the network, our performance was improved dramatically, capital expense was reduced by 50% and operating expense was reduced by 20%."

- HERIBERTO HERNÁNDEZ PÉREZ, PROGRAM MANAGER, CEMER SC

## The Challenge

**REGIONS WITHOUT SUFFICIENT ACCESS TO THE INTERNET** often experience a high rate of social and economic marginalization. For Mexico's Guanajuato region, there was a demonstrated need for internet access in difficult-to-reach areas. CEMER SC, in collaboration with the Secretary of Innovation of Guanajuato, responded to this issue by partnering in the Digital Divide Reduction Program, which aims to bridge the digital divide.

Interconnecting rural elementary schools to promote access to educational material was a top priority for CEMER SC. Additionally, it was essential that public internet access be granted to communities, so residents could become part of a more informed society.



Free internet access allows students and the public to stay connected.

To accomplish these goals, CEMER SC needed a solution with at least double the bandwidth as their previous technology, allowing for any possible increases in demand for their service. Second, they required equal or better performance in line-of-sight (LOS) and non-line-of-sight (nLOS) scenarios in distances up to 20 kilometers. Finally, they expected access to support from the manufacturer and a guaranteed increase in the equipment's capabilities.

## The Solution

**AFTER BENCHMARKING ALL THE OPTIONS AVAILABLE IN THE MARKET,** CEMER SC partnered with Cambium Networks and chose the scalable, industrial grade PMP 450i wireless wide area distribution network product family. CEMER SC selected this platform due to its performance, reliability, technical support and value.

This point-to-multipoint (PMP) solution connects businesses and communities by transmitting data between a radio base and multiple locations. CEMER SC deployed six radio bases in strategic points throughout Guanajuato with an average implementation time of one day per site. The addition of cnPilot™ e500 Outdoor Wi-Fi Access Points provides strong, high performance Wi-Fi service to public outdoor spaces in the region. Through public and school connectivity nodes, the radio bases supply free internet service for schools and communities.



Implementation is carried out by authorized installers and lasts, on average, one day per site.

## BEST PRACTICES

"Tests are carried out to verify the performance of the network with tools that have made it possible to ensure that the teams are delivering the expected results," said Heriberto Hernández Pérez, Program Manager at CEMER SC.

"Likewise, we use the LINKPlanner and cnMaestro tools provided by Cambium Networks, which help us to achieve the best levels of performance and easily manage the network."

## The Results

**THE RESILIENT EQUIPMENT ENABLED CONNECTIVITY TO 15 MUNICIPALITIES** in Guanajuato, Mexico. The performance, flexibility and support of cnMaestro™, Cambium Networks' wireless network management system, has been a key factor in simplifying network operations.

By shifting their network to Cambium Networks technology, CEMER SC achieved higher bandwidths, less latency and increased availability. This translated to a smoother user experience, faster network speeds and increased simultaneous user capacity. Specific benefits included:



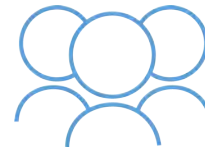
*Connected schools are more prevalent in Guanajuato thanks to the Digital Divide Reduction Program.*



50% reduction in capital expense & 20% reduction in operating expense



Supports solar power systems



800,000+ Guanajuato residents allowed connectivity

## Next Steps

**CEMER SC INTENDS TO EXPAND COVERAGE THROUGHOUT THE STATE OF GUANAJUATO** in order to provide more internet service to rural schools and public spaces. In partnership with Cambium Networks, CEMER SC plans to expand service to health and tourism sectors, connecting medical communities and bolstering Guanajuato's economy.