Cambium Networks™

Spreading Connectivity to Make a Difference

Challenge

THE UBUHLE-BEMVELO PRIMARY SCHOOL in the city of Mtubatuba, South Africa, was one of the few locations in the city that had limited Internet connectivity. While their one VSAT connection to the school provided a thread of connectivity, the Internet was accessible only through a cellular low-speed network, and families and businesses remained unconnected. Eloque Technophiles, a local company that provides technology solutions, was called in to design a means to connect more locations. To minimize the cost of constructing the network, the first choice was to deploy wireless broadband which would be rapidly installed without requiring the time and cost to trench wires or fiber.

"Before we had limited coverage. The Internet was only accessible to the office area of the school via VSAT. The *e*PMP network is currently in use by teachers, children at the lab, the business community, and also in households in the area."

- NTOKOZO MAHLABA, NETWORK ENGINEER, ELOQUE TECHNOPHILES

*e*PMP Access Point tower at school

"Planning is everything," says Ntokozo Mahlaba, Network Engineer. "You must know what your customers are expecting, the services they need, and how they are going to use the services. In planning, you need to understand the technology and know the environment, the elevation of the radios, and then design the network."

The goal was to connect the student computer lab and also 6 households in the nearby community. Eloque Technophiles had some experience with using wireless broadband in the past, but the system did not perform reliably. They began looking for a solution that would function consistently to minimize the cost of maintenance.

Solution

"THE TECHNICAL ENVIRONMENT REQUIRED THAT WE ERECT A 15-METER MAST TO LIFT the radios so they could broadcast to the whole village," says Mahlaba. "This would give us a complete circle of coverage out to a range of 2 kilometers."

Three Cambium Networks *e*PMP 1000™ Access Points (AP) were deployed at the tower location. In addition to connecting more than 21 workstations in the school's student computer lab, 6 *e*PMP Subscriber Modules (SM) were deployed to selected homes in the town. Planning and deployment were completed in a matter of weeks.

***e*PMP 1000 Access Network Solution**	
Frequency	2.4 GHz and 5 GHz
Throughput	100 Mbps in a 20 MHz channel

Results

"INTERNET CONNECTIVITY IS NOW PROVIDED TO BOTH THE computer lab and households in the area. They are now accessing the database of the education department over the Internet and other educational applications in the Internet" says Mahlaba. "Households can now do downloads from the Internet, which they couldn't do before. They can now e-mail, banking, etc. without going to town for those services. We went from having one connection to a building to having many people connected. It has changed the community."

Based on customer demand, Eloque Technophiles is now looking to connect more locations and to expand the network by using point-to-point wireless backhaul links to connect more locations and build out additional wireless access networks in the area.

*e*PMP subscriber module on a house

About Eloque Technophiles

Provides computer and technology solutions to government, business, and residential customers in Mtubatuba, South Africa.

Customers include

- School districts
- Business clients
- Residential access clients

Why Eloque Technophiles Chose Cambium Networks:

- **Reliable connectivity** that performs consistently
- **Capacity** to continue to perform when system is operating under heavy demand conditions