

BROADBAND GOES RURAL



SILO WIRELESS DELIVERS HIGH-SPEED AND COST-EFFECTIVE WIRELESS ACCESS IN RURAL ONTARIO WITH THE PMP 320.

SITUATION

When Andreas Wiatowski, a networking consultant, moved to rural Ontario, Canada, in 2006, he immediately realized the Internet connectivity options in the region were both expensive and unreliable.

Shortly after his arrival, Wiatowski formed Silo Wireless, a wireless Internet service provider (WISP) designed to deliver cost-effective, high-speed wireless access to the rural region of Brant County, Ontario, and the surrounding area. After building his subscriber base, the 900 MHz frequency eventually became more crowded and less reliable, and Wiatowski began looking for the next wireless solution that would help him provide faster, more reliable access to a wider region.

SOLUTION

As Silo Wireless grew, it teamed with broadband supplier MBSI Canada and Cambium Networks, which provided just what Silo was looking for: the Cambium Point-to-Multipoint (PMP) 320.

Wiatowski clearly explains the need to shift to the PMP 320 and the benefits of doing so. "Right when the

3.65 GHz band was opening up to service providers," he says, "I immediately saw an opportunity to roll out access before anyone else. Our 900 MHz spectrum was starting to become congested, and we were running into a lot of interference, so offering service at 3.65 GHz with the PMP 320 was just what we needed."

RESULT

Not only has the PMP 320 allowed Silo Wireless to offer faster, more reliable broadband to its users, it's also increased the subscription ratio for potential subscribers and helped Silo expand into new areas.

And that's only the beginning. Cambium's PMP 320 solution has also better positioned Silo Wireless as a market leader in the region, leading to many unforeseen benefits. These benefits have ranged from the opportunity to collaborate with the county on a grant application to develop nearly \$1M in new infrastructure to the recognition by both the public and competitors as the service provider most able to deliver the kind of bandwidth and reliability that subscribers demand.

CUSTOMER PROFILE

CUSTOMER

- Silo Wireless

INDUSTRY

- Wireless internet service provider (WISP)

LOCATION

- Burford, Ontario, Canada

COVERAGE AREA

- Brant, Norfolk, Haldimand, Oxford, Flamborough and Waterloo counties

CAMBIUM SOLUTION

- Point-to-Multipoint 320 licensed wireless broadband access solution

SOLUTION FEATURES

- The PMP 320 delivers up to 45 Mbps of throughput in a 10 MHz channel and residential connectivity in the 3 GHz licensed band
- The PMP 320 uses the 802.16e air interface to enable interoperability with WiMAX CPEs
- It operates in the 3.3 to 3.4 GHz; 3.4 to 3.6 GHz (including 3.5 GHz) and 3.6 to 3.8 GHz (including 3.65 GHz) frequencies

BRINGING RURAL BROADBAND UP TO SPEED

Andreas Wiatowski has been involved with the Internet and IT industries for over two decades, and he's all too familiar with the ups and downs the industries have faced. Still, he was shocked at the lack of affordable, wireless Internet access when he moved to Brant County, a rural area of Ontario. "There were two providers in the area, which offered either slow dial-up or unreliable satellite connectivity," Wiatowski explains, "and both were far too expensive."

Wiatowski knew there had to be a way to deliver the same kind of affordable service that urban areas enjoy to the rural region he called home, and, along with his wife Cynthia, he formed Silo Wireless to provide exactly that. "The bottom line is this: There's a digital divide between the rural population in our region and our urban counterparts," he says. "And everyone from kids to business owners to the general public were being robbed of the experiences that broadband access provides."

Taking a do-it-yourself approach, Wiatowski began installing custom built hardware on silos, grain elevators and other structures, which provided the WISP with a name the public could relate to and kept installation costs low. With this solution, Wiatowski finally delivered the kind of rural wireless access that today's users demand, and before long Silo Wireless was up and running.

A TRUSTED SUPPLIER

While researching products and technology to continue building his network, Wiatowski eventually came across MBSI Canada, a wireless technology supplier, and began an alliance that, by implementing a solution consisting solely of Cambium products, would help Silo deliver even faster, more reliable coverage in the area.

As its relationship with MBSI progressed, Silo Wireless eventually began using Cambium's Canopy system of 900 MHz access points and subscriber modules to provide the kind of wireless access that had been missing in the region. This solution was ideal for the area due to both its ability to cover areas even with challenging, non-line-of-sight terrain and its extensive coverage area of up to 40 miles, which is ideal for delivering access to sparsely populated and remote areas.

A GAME-CHANGING SOLUTION

Though the 900 MHz solution had been delivering great results for Silo Wireless and its growing subscriber base, as more and more products in the surrounding area used the frequency, the spectrum began suffering from interference and congestion. That's when Wiatowski went back to MBSI looking for something new, and the Point-to-Multipoint 320, a licensed, fixed, cost-effective and easy-to-install solution, immediately grabbed his attention.

"The PMP 320 was a really attractive proposition from the start," says Wiatowski. "The WiMax 802.16e interoperability, the extensive reach and the ability to dynamically adjust service flows for bandwidth and layer multiple service loads were just too much to ignore. Being the first provider to deliver service in the 3.65 GHz band, free of congestion and interference, was also a huge plus."



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Andreas Wiatowski, Founder, Silo Wireless



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Andreas Wiatowski, Founder, Silo Wireless

A BETTER SOLUTION FOR PROVIDERS AND SUBSCRIBERS

The results the PMP 320 has delivered have been dramatic, from the ease of use and installation, to the enhanced service for subscribers. “It’s been a joy to deploy these clusters,” says Wiatowski, “because they’re just so simple to install and configure. And we’re also able to do things with the PMP 320 we never could have done with our 900 MHz solution. With the 900 MHz products we had to install at around 100 to 150 feet maximum, and we were only getting about 4 kilometers of coverage. With the 320, we can deploy at 450 feet and see a maximum range in the 7 MHz channel of 16 kilometers.”

The PMP 320 has also increased Silo’s positive installation ratio. Now, when a new subscriber requests service within the current coverage area, nearly 80% of those subscribers can be hooked up without any additional access point installations. Thanks to the 320’s ability to leverage multiple-input and multiple-output (MIMO) technology, Silo has also been able to provide coverage to sites that were previously unreachable due to non-line-of-sight terrain challenges.

The results for subscribers have been similarly impressive. Whereas speeds before usually stalled in the 1 to 1.5 Mbps range and Silo Wireless could only provide one level of service, it’s now able to offer a variety of speed packages, ranging from 300 Kbps to 8 Mbps. And as subscribers continue to use more and more bandwidth every day, speed becomes more and more important. “Our customers want what they want, when they want it,” Wiatowski says, “and that’s what we deliver to them. We’ve got lots of gamers, and we never hear anything about latency. It just works, and our customers are happy with the performance we’ve been able to deliver.”



“THE CAMBIUM PLATFORM AND THE PMP 320 IN PARTICULAR IS JUST A VERY COST-EFFECTIVE, GAME-CHANGING SOLUTION THAT DELIVERS EXACTLY WHAT CAMBIUM SAYS IT WILL.”

Andreas Wiatowski, Founder, Silo Wireless

POSITIONED FOR SUCCESS

Not only has the PMP 320 provided immediate results for Silo Wireless, it's also better positioned the service provider for future success. "This solution has really affected our overall perception in the community," Wiatowski says, "so much so that after the first few PMP 320 towers went up, we were approached by the county to partner with them on a grant application through Ontario's Rural Connections Broadband Program to install nearly a million dollars in infrastructure. It's even positioned us as a market leader to the point," Wiatowski continues, "that when a subscriber on the edge of our service contacts a competitor, they just refer the person to us."

In the end, the PMP 320 and a strong alliance with MBSI and Cambium products have allowed Silo Wireless to thrive and deliver wireless broadband access to a rural area that lacked affordable and reliable coverage before. "The Cambium platform and the PMP 320 in particular is just a very cost-effective, game-changing solution that delivers exactly what Cambium says it will," Wiatowski says. "And with the ability to re-flash the device and upgrade software, it's going to be a great investment going forward as well."

Now that Silo Wireless has a solution it can trust, it's thinking about the possibilities that have opened up. "With this solution," Wiatowski says, "we're going to continue providing affordable Internet access in our immediate region and work on extending our coverage to around 6,000 subscribers over a 100 kilometer radius. We know we're going to have a lower number of subscribers per sector, but Cambium has addressed the rural market really effectively with a pricing strategy that's cost effective and with a platform we can trust."



CAMBIUM NETWORKS
POINT-TO-MULTIPOINT
(PMP) 320