



Robust, High-Speed Wireless Network Connects Outlying Villages to Promote Development



PTP 500 Series Ethernet Bridges Overcome Multiple Challenges

The Municipality of Koper in Slovenia has collaborated with NGOs and private partners to connect over twenty villages to a high-capacity broadband network. The initiative is part of a rural development programme supported by the European Union, enabling residents to use the network free of charge for email, browsing, data transfer and telecommuting. Motorola's PTP 500 Series wireless Ethernet bridges were chosen for the infrastructure due to their ease of deployment and ability to deliver reliable, high-speed communications in challenging environments.

Lying on the Adriatic coast, Koper is Slovenia's largest commercial port. The town has undergone rapid development in recent years, following various initiatives by the municipality to stimulate growth. These include founding a university to attract young professionals and capitalising on Koper's appeal as a departure point for several popular tourist destinations.

The Challenge: Lack of Infrastructure Impedes Access

Koper's surrounding villages had virtually no communications infrastructure, despite being situated less than 20 kilometres from the city. The mountainous terrain, absence of wired connectivity and lack of interest from commercial service providers meant that very few residents had access to the internet.

Following a successful tender, Motorola's value added reseller Projekt IP was given 45 days to create a network connecting over 20 villages within a 15 kilometre radius. High availability, reliability and security were all key factors in developing the broadband infrastructure. Considering that there was hardly any existing technology on which to build, combined with challenging terrain and a tight deadline, a wireless solution was the obvious choice.

Steadfast Performance and Reliability Key to Project's Success

The decision to deploy Motorola's PTP 500 fixed wireless Ethernet bridges was based on the reliability, ease of installation and affordability of this technology. While leased lines were an alternative solution for some locations, they would have been more costly and delivered lower bandwidth.

Operating in the 5.4 and 5.8 GHz unlicensed bands, the PTP 500 Series is designed to deliver data rates up to 105 Mbps across distances of up to 250 kilometres in virtually any environment – even extreme weather conditions, non line-of-sight and high interference areas.

Organisation Name
Municipality of Koper, Slovenia

Technology Partner
Projekt IP d.o.o.

Industry Name
Government

Product Name
• PTP 500 Series 50 Mbps Full Duplex Bridges

Solution Features

- Robust, high-performance
- NLOS and interference tolerant
- Up to 105 Mbps across 250 km
- Rapid deployment

Benefits

- Remote, high-speed connectivity
- Optimum reliability
- Multiple services, widespread customers
- Cost-effective

“The success of this wireless broadband infrastructure has highly influenced life in the countryside of Koper. In under a year, we have seen increased interest from small business investors and family-run businesses as well as a rise in weekend visitors and tourists.”

Rado Lipovec, IT Manager, Municipality of Koper

Connecting Outlying Villages to Promote Development

Motorola's PTP 500 Series wireless Ethernet bridges have been deployed in the mountainous Koper municipality in Slovenia to deliver high-speed internet services to residents in surrounding villages. The initiative is part of a rural development programme that will see the new infrastructure bring multimedia applications to the municipality and local businesses to encourage economic growth.

The combination of Multiple-Input Multiple-Output (MIMO), Intelligent Orthogonal Frequency Division Multiplexing (i-OFDM) and advanced signal processing algorithms ensures a robust solution that optimises performance and spectral efficiency as well as resistance to interference. Over-the-air transmissions are secured by a unique scrambling mechanism and additional security can be applied with 128 or 256-bit AES encryption.

According to Egon Bencic, General Manager at Projekt IP, the installation was done in record time, connecting over 25 locations, including mid-points. “The success of this project was due to reliable network equipment and team work. We needed assurance that the technology would be robust enough to support the services we offered and that was why we chose Motorola's PTP 500 Series bridges.”

Broadband Brings Promise of Economic Growth

In addition to providing the residents of Koper municipality with Internet access, email services and the ability to transfer data, the network has given people the opportunity to work from home, thereby bolstering efficiency and advancing economic development.

It has also created new revenue opportunities for Projekt IP, which intends to offer additional services such as wide area networking, remote access solutions and multimedia applications for local businesses.

Students at the local university stand to benefit from proposed connectivity to the Europe-wide Academic Wireless network, EDUROAM, allowing them to link up from virtually anywhere on the continent.



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