



# Slovakia Deploys Wireless Broadband Infrastructure for Converged Communications



## Motorola's Fixed Point-to-Multipoint Solution Supports Internet Access, Video Surveillance and Public Broadcasting System for Nemšová

The municipality of Nemšová has invested in a Motorola Point-to-Multipoint (PMP) wireless broadband network to provide public internet access and improve security in the city centre through closed-circuit television video surveillance and a public audio broadcasting system.

Situated at the foothills of the White Carpathians mountain range in western Slovakia, Nemšová is the region's youngest and smallest city. It has a population of approximately 7000 and is home to the largest glass manufacturer in Slovakia. Agriculture is the primary industry in the area.



**Organisation Name**  
City of Nemšová, Slovakia

**Technology Partner**  
Digilive s.r.o.

**Industry Name**  
Government

**Product Name**  
• PMP200 Series

**Solution Features**

- High-bandwidth connectivity
- Low acquisition costs
- Reliable, secure, scalable
- Internet access
- Video surveillance
- Public audio broadcasting (VoIP)

**Benefits**

- One network, multiple applications
- Cost-effective
- Low maintenance
- Adaptable

### The Challenge: Municipality Needed Cost-effective, Robust Solution

To sustain the growth and development of the city, Nemšová's municipality decided to deploy a broadband network that could support high-speed public internet access as well as bandwidth-intensive video and voice over IP (VoIP) applications.

Existing public internet services available through the city's incumbent telecommunications operator were too expensive for the majority of Nemšová's citizens. By deploying its own wireless broadband infrastructure, the municipality would be able to integrate public internet services as well as video surveillance cameras and a public audio broadcasting system onto a single network. This would allow them to maximise use of the infrastructure and provide low-cost internet access, extending connectivity to families, nursery schools, social care centres and retirement homes, thus meeting their objectives of providing internet services to all generations.

### Scalable, Wireless Network Delivers Affordable Broadband Services

A solution was found using Motorola's fixed PMP200 Series wireless broadband access infrastructure, which delivers scalable, high-speed connectivity (up to 14 Mbps) to multiple locations.

Tomas Bergmann, Regional Manager of Wireless Broadband Solutions at Motorola explains: "The PMP200 Series maximises the productivity of unlicensed frequencies and is highly tolerant to interference. Robust performance, multiple layers of security as well as low acquisition and maintenance costs make this an ideal technology for municipalities."

The system is designed for rapid installation and has built-in deployment assistance. Compact and unobtrusive, the PMP200 Series allows for easy outdoor installation without the need for overhead or in-ground wiring. Its

“Nemšová may be the youngest and smallest city in the region, but it is growing rapidly. With this new wireless broadband infrastructure, all our citizens can reap the benefits of progressive, IP-based technologies. We have the flexibility to expand connectivity to more remote villages and to add further applications as the need arises”

**Ján Mindár director of the City of Nemšová**

#### **Municipality Selects Motorola Wireless Broadband for Low-cost Public Internet Access and Integrated Services**

To meet the demand for affordable internet access for all its citizens, the municipality of Nemšová has installed its own Motorola Point-to-Multipoint network that supports high-bandwidth applications such as video and VoIP. The wireless infrastructure allows multiple applications to run on a centralised network that is reliable, scalable and extremely cost-effective.

ability to integrate seamlessly with existing network systems was also an important consideration as the network had to incorporate third party applications such as CCTV and public warning systems. Using Committed Information Rate (CIR) and Maximum Information Rate (MIR), network operators can provide differentiated levels of service, ensuring sufficient bandwidth is allocated for high-throughput transmissions, such as video, over the network.

The PMP200 Series provides superior reliability, even in high-density environments. Components include an access point (AP) module, which interfaces with an existing local area network using a standard Ethernet connection. Small subscriber modules (SMs) act as access receivers and can be installed inconspicuously at users' or customers' sites. Each AP module can serve up to 200 SMs, allowing the system to be scaled according to user demand.

Five APs and 180 SMs have been installed in the city of Nemšová and several surrounding small villages, delivering high-speed internet access to the city and urban neighbourhoods – a total coverage area approximately 30km long and 10 km wide. Four IP cameras provide video surveillance in the city centre and other high-security areas. The network also supports VoIP for a public audio broadcasting and warning system.

Slovak law requires all municipalities to implement public information and warning systems. In an emergency, the system can be used to broadcast messages at strategic points throughout the city. It can also be used to inform citizens about local events or incidents.

#### **Centralised Control, Multiple Applications**

“This project was a great challenge for us as it was critical that third party applications, such as the public broadcasting and CCTV systems, could be integrated easily and supported optimally by the Motorola network. By having all these applications on a single network, the municipality has centralised control of the services it provides,” said Tomáš Horák, Director of Motorola VAR, Digilive.

Aside from a nominal fee to cover the installation cost, the municipality is offering citizens of Nemšová and surrounding villages free internet access for the next four years. The wireless broadband service can be ordered in the same way as other municipal services such as electricity, water or gas.

“We chose this technology because we needed a high-quality solution that was reliable and easy to implement. It was definitely a good choice: one year after the start of the project, we can honestly say it requires minimum maintenance and has generated a great deal of interest from the surrounding villages,” said Zdenko Hajdák, director of T Print+, the local network operator.



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