



# Polish Border Guard Opts for Motorola Point-to-Point 600 Series to Protect Baltic Coastline



## Wireless Solution Links Automated Radar Surveillance System to Co-ordinate Border Patrol Activities

The Polish Maritime Border Guard has deployed Motorola's Point-to-Point (PTP) wireless Ethernet bridges along the country's northern border, stretching some 450 km along the Baltic Sea. The system plays a significant role in co-ordinating border surveillance and search & rescue activities between institutions by providing a centralised wireless broadband network for secure, real-time access to mission-critical data.

The Central Supervision Centre located in Gdansk co-ordinates activities between the Border Guard's vessels, aircraft, land vehicles, observation points and control centres. It also has to collaborate with the border services of other Baltic Sea region states. Key to the success of this operation is the rapid collection and dissemination of information generated from a variety of devices at observation points across the coastline. These include terrestrial and air radar surveillance systems, low light level and closed-circuit television, vessel monitoring and vehicle tracking technology.

## Secure, Long-range Communication Needed for Efficient Mobile Identity Management

One of the challenges faced by border management institutions is the issue of mobility. In order to identify and track the movement of people and goods across borders efficiently, the Polish Border Guard required a robust, secure communication solution to support the protection of its citizens and facilitate inter-agency co-operation. Such mission-critical communication demands resilient networks that can be deployed rapidly, offer flexibility in times of crisis management and provide coverage across a vast geographic area, regardless of population density or high levels of interference.

WiMAX technology was considered, but could not provide the throughput and long-distance coverage required. Alternatively, a fibre optic network would have taken too long to deploy. Motorola's unlicensed PTP600 Series wireless Ethernet bridges provided the opportunity to establish a broadband system quickly and cost-effectively. In addition, the system is able to support resource-intensive services within the limited transmission level of 1 watt, which is the standard in Poland.

**Company Name**  
Polish Maritime Border Guard

**Partner Name**  
Sprint

**Industry Name**  
Government

**Product Name**

- 43 links
- Covering 450km of coastline
- Prizm Element Management

**Solution Features**

- Secure, high-throughput connectivity
- Long-range communication
- Sophisticated interference mitigation
- Robust and high availability

**Benefits**

- Rapid deployment
- Cost-effective
- Centralised network
- Real-time access to mission-critical data



“We needed to deploy a high-throughput, wireless broadband solution that could be installed quickly, would not interfere with other radio devices such as our radar surveillance system and could provide coverage across the entire Polish coastline,”

**Janusz Karpiuk, Chief Section of Telecommunications Department, Polish Border Guard**

**PTP 600 Series Provides Reliable, Cost-effective Solution for Mobile Identity Management**

Motorola's point-to-point wireless broadband links provide secure, high-throughput connectivity across 450km of Poland's coastline, creating a centralised network that delivers mission-critical communication in real time and supports the Polish Border Guard's objectives of public safety and secure borders.

**PTP600 Series Meets the Challenge**

Combining the speed and reliability of licensed wireless links with the flexibility of the unlicensed spectrum, the PTP600 Series alleviates the delay and expense of applying for a license to set up high-throughput links. The solution is designed to operate in near- or non-line-of-sight, long-distance line-of-sight and high-interference environments, especially over water.

Its sophisticated interference mitigation provides a robust link that effectively utilises the available spectrum by monitoring all channels and dynamically selecting those which can sustain both the highest data rate and the most reliable availability. Communications are encoded using a unique scrambling mechanism to secure over-the-air transmissions.

Motorola partner Sprint has deployed 43 PTP600 links on towers along the Polish coastline. “The towers were fitted with wireless devices that form part of the Border Guard's automated radar surveillance system and it was therefore critical that the Ethernet bridges did not interfere with the existing equipment,” noted Wojciech Pigon, Project Manager at Sprint.

The PTP600 links connect 29 border guard points as well as 11 intermediary points onto a single network. Information is generated in a variety of formats – including voice, maps, video and images. All data generated from the observation points is transmitted to local control points. This data is then collected at the Central Supervision Centre in Gdansk, with a back-up management centre some 200 kilometres away in Kolobrzeg.

**Real-time Access to Data Improves Efficiency and Control of Polish Coastal Border Patrol**

The Border Guard is able to pinpoint the location of aircraft or vessels at any time of the day or night across the entire 450 kilometres of Polish coastline and can monitor activity approximately 12 miles off the coast. The communication links provide up to 100 Mbps of bandwidth, allowing them to receive video and images in real time. This facilitates co-ordination between all border points, making it easier to monitor traffic, convoy foreign vessels and respond quickly in the event of an emergency.

Motorola's Prizm integrated Element Management System simplifies and enhances management of the network by enabling centralised control of fault management, performance monitoring and configuration. This significantly reduces the time and money spent on network management and maintenance.

“The PTP600 Series has enabled us to install a broadband communications system quickly and at low cost. It is easy to configure and simple to operate, providing an effective way to support our objectives of public safety and secure borders,” noted Janusz Karpiuk, Chief Section of Telecommunications Department, Polish Border Guard.

The system is being treated as a pilot for other border patrol agencies in the EU as it offers a viable solution for the EU's objectives of integrated border management.

