

# Historic Peñíscola on the Mediterranean

## Spanish Police Department Enhances Tourism Security with Wireless Mesh



### ORGANIZATION

Peñíscola Police Department

### LOCATION

Peñíscola, Castellón, Spain

### INDUSTRY

Public Safety and Tourism

### PURPOSE

Increased safety for tourists  
and residents

### SOLUTION

Firetide Wireless Mesh Network  
and IP Cameras

### MORE INFORMATION

AWA Accesos Web Alternativos,  
Castellón, Spain (Firetide reseller)  
[www.awacenter.com](http://www.awacenter.com)

The town of Peñíscola is situated on the eastern coast of Spain and is often called the Gibraltar of Valencia. As a major tourism destination on the Costa del Azahar (Orange Blossom Coast), the town's population swells during the warm summer months when cultural and social events abound. Visitors from the colder climates of northern Europe flock to its fine-sand Mediterranean beaches, sunny blue sky, and fascinating history and architecture. Originally a Moorish stronghold in the 1200s, the fortified town fell into and out of the hands of many civilizations that left their mark in time. Hundreds of years later, even Hollywood arrived to film the 1961 movie "El Cid" starring Charlton Heston and Sophia Loren. These days, Peñíscola's 79 square kilometers (30 sq. mi.) face new security needs at a time when wireless mesh technology has been advanced to interface effectively with the need for public safety.

### History Moves Forward

Although renowned Peñíscola is known for its leisurely small-town lifestyle, some of its problems are tantamount to a big city like Madrid. For a long time, local residents have watched the town's population surge during summer and dwindle in the winter, sort of like the ebb and flow of the ocean. Much of their local economy and livelihood is based on the visitor industry so business has to be good when tourism is up. There are numerous coffee shops, restaurants and shops in town.

While residents and businesspeople have their viewpoint, the police department has made its own observations. During tourism's peak season, officers see more pilfering, greater congestion, traffic jams and a variety of other public situations that must be monitored 24 hours a day. To successfully deal with civic demands, the local government increased the presence of the police force in town. Additional patrols were effective but the police department was curious about something else. It was interested in experimenting with the application of new technologies.

A fresh approach with wireless mesh technology was tested because times have changed, not only for this historic town but for the industry as well. In many municipalities around the world, technology has become critical in the field of social services. The Peñíscola police wanted to experience first-hand the opportunities that wireless mesh networks offer.

Initially, the department did its own preliminary research, but when it wanted to hear specifics, it called upon AWA Accesos Web Alternativos, a subsidiary of AWA Group. AWA Group also has subsidiaries in Monterrey and Cancun in Mexico, and is expanding to Brazil and Argentina. The company uses Wi-Fi to deliver broadband services and mobile telephony. AWA Accesos Web Alternativos is based in Castellón, the same province as Peñíscola. The AWA made a presentation to the police department, and the department decided on a Firetide wireless mesh network to support a Wi-Fi-enabled surveillance camera system. AWA performed the installation and the start-up of the wireless mesh system and ensured that the video cameras were set up to police specifications.

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### Prerequisites for Peñíscola

Because of Peñíscola's delicate historic nature, the police and local government wanted the video system to be the least intrusive possible. They were unwilling to build antennas that would block or distort the town's historic and scenic views. They shunned the idea of laying cable since it would have created a messy construction environment in an area that should be kept aesthetically pleasing. With a wireless mesh network, there is no need to dig utility trenches or lay long stretches of network cabling for access points. Furthermore, cost was a deciding factor. The system had to be inexpensive, and easy to install and maintain.

The police department inquired about other villages in Castellón Province that used surveillance systems to monitor and control traffic and to prevent vandalism. Most were wired or used simple wireless systems. The wired solution was ruled out as being too expensive due to the cost of cable and labor. The department knew it wanted wireless, but wasn't sure what kind. It went to AWA to gather more data.

### Providing Security for the Police

"When the police department contacted AWA, they had a good idea of what kind of system was suitable, and we quickly thought about a Firetide system," said Santiago Arenos, Chief Technical Officer for AWA Accesos Web Alternativos. "Although the wireless setups installed in other villages had given acceptable results, they did not satisfy certain aspects of security and reliability that the Peñíscola police wanted."

Arenos said it is vital that the police wireless system have special requirements. It cannot be the type of easily invaded system that someone with enough computer knowledge can exploit. Moreover, the public environment in Peñíscola requires that video reception be continuous even if something happens to one of the links. If a mesh node goes down or is blocked, the system would have to be self-healing to reroute the traffic over another path. For security and reliability, the 128- and 256-bit AES keys encryption and smart self-routing offered by the Firetide AutoMesh protocol guarantees that these types of scenarios will not occur.

When enough of the right information was provided, the presentation didn't have to go beyond a discussion about Firetide. "Actually, we did not have to show our customers any alternatives as they were in total agreement with the Firetide wireless mesh system," said Arenos.

Equipment consisted of four Firetide 3103 HotPort Indoor Wireless Mesh nodes, two network video cameras, one sector wireless antenna and an outdoor enclosure to protect the indoor nodes. The main node was installed atop Irta Tower, the tallest building in the

north side of the town. This node is connected to three other nodes that are located in the old town hall in the south, in the new town hall in the middle of the triangle and at Constitution Square (the only site with a hard-wired node). Because of the ideal location of Irta Tower, the four nodes cover most of Peñíscola and more nodes can be easily added and detected by the existing nodes.

Arenos notes that in any installation there are usually challenges, but setting up the system went smoothly for the most part and without any major problems. Firetide technical representatives were on hand to provide direction and keep the installation on schedule. In addition, Firetide's self-forming mesh network configured the network automatically through the AutoMesh protocol that provides a high level of network performance, reliability and usability.

### Getting a Clearer Picture of Peñíscola

Before the installation, police officers had to scout the various problem areas to check for congestion and traffic problems and then they would call for support. Once the wireless mesh system was completely installed, the police department could see more with fewer officers performing the surveillance.

The department also noted that it could more easily monitor and control the flow of traffic around town. Now, it's as simple as looking at the monitors, immediately spotting any trouble and dispatching the officers.

Other improvements the department noted were in reference to enhancing security. For example, if a special situation or location demands more observation, the cameras' flexibility allows them to be moved, turned and zoomed remotely from police headquarters. The cameras can monitor any space, big or small. Consequently, the number of officers needed for surveillance work has been reduced considerably. They can concentrate on other duties.

And finally, the Peñíscola police department got its wish. The department definitely checked out a new approach. It also developed a much broader perspective about the benefits of wireless mesh networks along with learning a great deal about the many possibilities this type of system offers.

"People from the police department realized that times have changed and that technology has become a social service," said Arenos of AWA. "They knew to take advantage of the new wireless mesh technology even though it comes from the other side of the ocean."

