



City-wide MOTOMESH Duo Network Delivers Low-Cost Public Broadband to Bolster Economic Growth



Overview: High-speed Meshed Wireless Network Brings Innovative Mobile Communications to City of Ascó

To foster economic development and make broadband internet services available to citizens, the city of Ascó in Catalonia, north eastern Spain, has invested in a sophisticated mobile wireless network that supports Voice over IP, video surveillance and location-based services.

Spanning an area of approximately 74 square kilometres, the city is home to some 1600 inhabitants, many of whom are employed at the nearby nuclear power station. The surrounding area has an abundance of almonds, olive groves and vineyards, which have created a thriving agricultural industry.

The Challenge: Low Cost of Ownership and Widespread Coverage a Priority

The network had to comply with the municipality's budget constraints and meet stringent return on investment targets, as well as providing reliable connectivity city-wide, including areas with high levels of interference and obstructions such as buildings and dense foliage.

In addition, Ascó sought to automate the control of traffic through a labyrinth of narrow streets which are limited to residential access. This required real-time video surveillance to monitor and restrict admission.

Self-forming, Self-Healing Network Provides Internet Access Virtually Anywhere

Motorola partner Eureka implemented MOTOMESH Duo, a cost-effective, dual radio wireless broadband solution which is designed to transmit real-time data at speeds of 10Mbps. Capable of supporting a broad range of fixed and nomadic applications, the system is able to deliver superior performance and mitigate interference across a large area.

The meshed network is comprised of nodes or Intelligent Access Points which share the network connection to create a wireless cloud of connectivity: mesh routers provide internet access to users and act as repeaters for other access points in the network. This creates a robust, self-forming, self-healing network that constantly monitors node congestion and automatically chooses the quickest path along which to route network traffic.

Wireless mesh networks don't require a wired connection to broadcast their signal, which significantly reduces the cost of installation and minimises environmental impact while also enabling the network to be deployed rapidly.

Company Name
City of Ascó, Catalonia

Technology Partner
Eureka

Industry Name
Government

Product Name

- Mesh Networks 4300 series
- Point-to-Multipoint backhaul

Solution Features

- Mobile public broadband services
- Voice over IP
- Real-time video surveillance
- High throughput supports multiple applications
- Robust, easy to install
- Scalable and tolerant to interference

Benefits

- Economical
- Broadband on demand
- Extended coverage to underserved areas
- Improved service delivery



“Traditionally, our city has been known for its nuclear plant. We also want to be recognised for our innovative communications technology.”

Daniel Serrano, Deputy Mayor

The city of Ascó has deployed Catalonia's first municipal meshed wireless broadband network to promote economic growth. Delivering high-speed data, voice and video services to residents and businesses throughout the city, the network has also enabled the municipality to improve service delivery. The low-cost, scalable solution is highly tolerant to interference, allowing previously underserved areas to be connected.

“The MOTOMESH Duo units are small in size, lightweight and have low power consumption, allowing them to be mounted in a short period of time on buildings and street lights, with minimal visual impact. Additional units can easily be added to the network to cater for increased demand,” explained Jaume Sanpera, Director General at Eureka.

Over-the-air software upgrades enable new capabilities to be added to the network, optimising flexibility to cater for future growth and ensuring a higher return on investment.

Motorola's Point-to-Multipoint wireless broadband technology provides the backhaul link, extending the network to areas with non-line-of-sight coverage, at low cost. This has enabled the city of Ascó to connect citizens in underserved areas so that everyone can benefit from its new digital economy.

Increased Municipal Efficiency and Public Broadband Promotes Economic Development

The city-wide meshed network is able to meet increasing bandwidth demands from municipal users, mobile business users and residential subscribers and to serve a wide range of needs, including rapid data transfer, Voice over IP and real-time video surveillance. With high-speed internet access available throughout the city of Ascó, citizens and organisations can now connect virtually anywhere, at any time.

As well as making Ascó more attractive to the local public and business, the network can be used to enhance the delivery and maintenance of municipal services such as public transport, roads and utilities.



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