



Mesh Network with Capacity to Share



How a fast growing communications service provider in Spain successfully extended their business into new markets by providing employees of the municipality in Girona a metropolitan-wide WiFi meshed network for email, web browsing, video surveillance and other applications.

Examining the Business Opportunities

The city of Girona is near Barcelona, Spain, located halfway between the mountains and sea. Home to more than 90,000 residents, the city's cultural diversity is unlike other communities in the region as Girona is built on an ancient route linking Spain to the rest of Europe. While the climate and culture draw tourists from around the world, broadband services and connectivity options remain limited. The cost and implementation time to build out a wireline network were obstacles to providing connectivity.



As an established network service provider in Barcelona, BC Sistemas de Comunicación, was provided the opportunity to create the city's first Wireless LAN meshed WiFi network using Motorola's wireless broadband solutions. The network covers 460,000 square meters and is prepared to serve 90,000 citizens. The deployment schedule allowed BC Sistemas to offer service in two phases. The first phase provided municipality employees access to restricted business and operations services. The second phase will allow citizens access to municipality websites through open services.

Exploring the Solutions

Reliability, design, and ease of installation are important when expanding a service area into a new region. BC Sistemas chose to provide wireless broadband coverage using Motorola's fixed point-to-multipoint and mesh infrastructure solutions. While Canopy® HotZone* nodes provide the mesh network access to users the Canopy platform serves as the network capacity injection layer bringing the broadband signal to the designed areas.

* Powered by Tropos MetroMesh

Location

Girona, Spain

Service Provider

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Customer

Ajuntament de Girona

Network Design

Municipal & Public
Access Network

Applications

Video Surveillance,
eMail Access, Web
Browsing, Remote
Water Meter Reading,
Parking Meter
Management

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“We selected Motorola’s wireless broadband solutions because they are proven and widely used in similar projects across the globe. We valued Motorola’s direct support during the planning stages and during the installation and configuration processes.”

Oscar Morillo, Project Director, BC Sistemas de Comunicación

Reviewing the Network’s Design

BC Sistemas technicians paid very close attention while conducting fieldwork. Determining the optimal installation points for each module, router, and gateway was necessary in order to maximize network redundancy and coverage. The mesh network gateways and routers are installed on street lamps, traffic lights and municipality buildings in the area. Installation experts were quickly trained and used a truck equipped with a lift to install the wireless injection layer and mesh network nodes at each site. The entire project was completed, on schedule with very little interruption to the community, in three weeks.

Inspecting the Business Results

Ajuntament de Girona now has Add the words metropolitan-wide between a and mesh network capable of transferring data, messaging and video surveillance with growth capacity for future public access. City employees can upload reports and requirements quickly. The Motorola network has enabled new applications for Girona such as remote control of water meter reading, parking meter management, and video surveillance for public safety. The network is scalable and will be extended to cover other sections of the city. BC Sistemas continues its work with city planners to grow the network coverage area and offer additional services.

Looking at Future Plans

The municipality, Ajuntament de Girona, is currently planning to extend WiFi coverage to other areas in their community. BC Sistemas is investigating a new generation of Motorola mesh technology, HotZone Duo, a more cost-effective, high performance meshed WiFi network that provides single radio (2.4GHz, 802.11b/g) or dual (2.4GHz, 802.11b/g and 5.8GHz, 802.11a) network configuration to best meet coverage needs.

Choosing a Technology Partner

“We selected Motorola’s wireless broadband solutions because they are proven and widely used in similar projects across the globe,” said Oscar Morillo, of BC Sistemas de Comunicación. “We valued Motorola’s direct support during the planning stages and during the installation and configuration processes. The planning was realistic. The installation was well organized.”

MOTOwi4 Solutions

Motorola’s wi4 Fixed and wi4 Mesh portfolios deliver connectivity helping our customers extend their reach to virtually any environment. With a unique combination of advanced technology, superior performance, flexibility, ease of installation and cost effectiveness, MOTOwi4™ solutions connect people to the Internet and applications, increase the productivity of enterprise workforce teams in more places, strengthen communities by connecting more residents, businesses and public services and increase efficiencies of public service agencies wherever they may be.



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