



City Council of Gijón enhances TETRA network capabilities with Motorola Dimetra IP Compact



The municipality of Gijón

The municipality of Gijón is located in the centre of northern Spain's Asturias coast. Comprising mainly rural areas, over 90% of its 275,000 citizens reside in Gijón, the largest city of the region. Spreading along the coast and covering an area of 181.7 square kilometres, the peninsula of 'Santa Catalina' (Saint Catherine) and the old quarter of 'Cimadevilla' form the core of this modern, yet historic city, while to the west is the port and docks, as well as industrial estates and the housing areas of La Calzada and El Natahoyo.

One of northern Spain's most important cities, Gijón is a major business centre and, with its temperate climate, an attractive venue for trade shows, conventions and cultural events. The continuous modernisation of Gijón, and improvements in travel connections with the rest of Asturias and Spain, have turned this location into a key tourist area.

Supporting development of joint operations amongst the municipal services

Committed to ongoing development and high-quality services, the City Council of Gijón (Ayuntamiento de Gijón) replaced 14 disparate analogue radio communications networks with Motorola's digital Compact TETRA system in 2003. Previously, the legacy systems had been based on different technologies and capacities, thus the emergency services and other City Council agencies were unable to communicate effectively with each other. The associated operation and maintenance costs for these networks were also growing substantially.

The City Council required a reliable infrastructure independent of public telephony networks that could guarantee mission-critical voice and data services for all civil safety users, while ensuring group synergies could be realised when effective collaboration was needed. The system also had to meet European and international regulations for communications security, provide the capability to track the location of users and vehicles, and integrate with a number of key third-party applications and systems.

Customer name

Juan Eduardo Gonzalez
Services General Manager

Company

Gijón Municipality

Technology partner

n/a

Service provider

n/a

Industry name

Public safety, emergency & municipal council services

Product

Motorola Dimetra IP Compact

Solution Features

- Cost effective, reliable and high-quality voice and data communications
- Instant call set-up, text/status messaging and multiple talk-groups
- Modular, scalable and flexible architecture
- Multi Slot Packet Data & dynamic regrouping

Benefits

- Integrated communications between municipal agencies
- Accurate tracking & deployment of personnel, vehicles and resources
- Ring transport topology ensures network resilience
- Increased user safety & ability to relay vital data to users in the field

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Juan Eduardo Gonzalez, Services General Manager, Gijón Municipality

Improved services via effective communications and collaboration

By extending its TETRA network's capabilities with Dimetra IP Compact, Gijón's City Council has ensured that its system continues to grow in line with operational requirements, and Juan Eduardo Gonzalez confirms that system objectives are being met. "Integration of the various municipal service units has proved to be decisive. We have been able to integrate services across different areas – for both companies within the group and those of the third parties that work for us – whilst guaranteeing quality voice and data services," states Juan Eduardo.

"Redundant elements are built into the system to ensure that it is robust and reliable, so that users don't have the worry of communications failing in critical situations. Motorola has provided the added value of its experience, and advice on the possibilities of the system and integration capabilities resulting from its enormous flexibility. We remain very ambitious with regards further projects to raise service levels, make the most of resources, and provide better and higher quality services," says Juan Eduardo Gonzalez.

Innovative Compact Tetra platform that grows in line with operational requirements

The City Council of Gijón's TETRA network was the first system of its type to go live in Spain, providing integrated communications between local police, fire brigade and other user agencies. Motorola deployed a three-site system in 2003, based on its innovative Compact TETRA platform, which provides small-to-medium operations with a cost effective and reliable digital communications solution. Covering 182 square kilometres, the advanced TETRA network allowed users to make instant group and individual calls, send text or pre-programmed status messages to other radios from the dispatcher, and supported multiple talk-groups.

The latter is particularly important, given that the council has 2,800 employees based across 87 offices and sites. This includes 320 police officers, 100 fire-fighters, 670 personnel working for EMULSA (the municipal company for maintaining the urban environment); 340 for EMTUSA (the urban transport company); and 135 for EMASA (the water board). The TETRA network also serves companies subcontracted by the council, plus the civil defence and the lifeguard services based along the Gijón coast.

"We selected Motorola's TETRA solution because it offered the most competitive price/services ratio, together with an impressive range of capabilities. Motorola's expertise in delivering mission-critical networks was a key motivating factor," states Juan Eduardo Gonzalez, Services General Manager, Gijón Municipality. "Other systems from major vendors were also considered. However, in some cases, the solutions put forward could not match the capabilities of Motorola's TETRA solution, whilst others were unable to meet our requirement for integration with other systems."

In 2008, Gijón's TETRA network was extended and enhanced with Motorola's latest Dimetra IP Compact solution. Dimetra IP Compact is modular, scalable and affordable, providing a flexible architecture that supports high-quality voice and seamless data communications. As well as enabling the City Council to extend network coverage, the system introduces new features such as Multi Slot Packet Data for high-bandwidth connectivity, and dynamic regrouping, enabling users to reconfigure talk-groups whilst out in the field.

The City Council now has eight base stations throughout its territory providing 184 square kilometres of coverage including 40 urban and 12 industrial areas with high-risk installations including the sea port, steel and gas plants. Motorola is also providing management and maintenance

support, as well as user training. "Team training is a key factor for success, both for end users and management, who have to plan the integration of existing resources," says Juan Eduardo Gonzalez.

Motorola's Dimetra IP Compact delivers integrated communications, effective coordination of services and advanced mobile applications

As well as boosting network coverage in Gijón by 30 percent, Dimetra IP Compact delivers the high level of encryption required to secure mission-critical communications. Configured with on-site redundancy, the system is built on a ring transport topology for resilience. "The TETRA radio system is based on the development of joint operations amongst the municipal services, including public safety operations and third-party users. The key aspects are integration of communications between these users, plus the effective coordination of services, and maximising the use of mobile applications and tracking of resources," states Juan Eduardo Gonzalez.

As part of the initial implementation, an integrated services centre was established combining the information databases and geo-positioning systems employed by the different municipal service providers. Location data from TETRA terminals with integrated GPS (global positioning system) is transmitted to the City Council's services centre, allowing dispatchers to accurately track personnel and vehicles, deploy resources effectively, and send SDS (short data service) text messages relaying vital data to users in the field. This has increased user safety and delivered significant operational benefits, as well as reducing the number of operating frequencies required from 32 to 12.

At the coordination centre for Police and Traffic, traffic congestion and public transport incidents are monitored, and the information instantly shared with other municipal teams. EMTUSA, the local transport service, is also making full use of Dimetra IP Compact's data capabilities, with passenger information display, ticketing (online validation and payment), Automatic Vehicle Location (AVL), bus fleet monitoring & control, and remote database access.



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