

Colombian utility company connects its teams with MOTOTRBO™ for improved operational safety and wide-area coordination

Challenge

Previously, this utility company was utilising an analogue network for its mobile workforce communications. However, this suffered from interference, minimal functionality, and limited range, so communications were only possible on a sector-by-sector basis, and it was not possible to connect users across the operational zone. This affected coordination, efficiency, productivity and response times. Therefore, the company decided to extend its network and upgrade to a digital system. It considered various solutions but ultimately chose a MOTOTRBO system because of its proven resilience and performance.

Customer

Colombian utility company

Industry

Utilities

Solutions

A MOTOTRBO Capacity Plus multi-site system comprising:

- Circa 40 MOTOTRBO SLR 5100 and DGR™ 6175 repeaters
- Over 330 MOTOTRBO radios, including R7 radios with screens, keypads (FKP) and GPS and DGP™ 6150 and DGP 8550 portable radios
- Circa 50 DGM™ 8500 and DGM 6100+ mobile radios
- TRBOnet control room software (10 dispatch licences and 225 subscription licences)
- TRBOnet Swift Agents
- 15 microwave radio links



MOTOROLA SOLUTIONS

Solution

The utility company installed numerous repeaters and microwave links to ensure that the MOTOTRBO network provides robust coverage throughout its operational area. It also created a heatmap of the network via Motorola Solutions' RF Coverage Mapping Services, which uses data about the radio system, terrain, and obstacles to predict and visualise signal coverage. This helped it identify areas with strong or weak signals so it could optimise repeater selection and placement.

The deployment has evolved through multiple phases over several years, beginning with the infrastructure and TRBOnet control room software installations, followed by the configuration of the IP connectivity and the digital network (programming repeaters and mobile and portable radios in both RF and IP), and culminating in training in digital equipment and software management. The company also installed TRBOnet Swift Agent radio-over-IP (ROIP) gateways to connect one of its substations, which has no repeater coverage, to the network. Finally, its radio licences and frequencies also needed to be organised and programmed in conjunction with MinTIC (the Colombian Ministry of Information and Communication Technologies).

The network is used daily by over 300 subscribers, making thousands of voice and data communications to coordinate operations for new installations, grid maintenance and repairs. Workers carry portable MOTOTRBO radios, like the R7; the mobile radios, meanwhile, are fixed in their vehicles or utilised by operators in the control centre. The company has established various talk groups and an emergency all-call channel that has priority over all other ongoing conversations. Controllers use TRBOnet Enterprise software for features such as voice dispatch, GPS tracking, voice recording, pre-recorded messages, alarm management and job ticketing to effectively manage remote workers across the entire region.

The company has opted to partition the connected system into three independently serviced zones for maintenance purposes. Each zone, in turn, manages seven subzones, again, with centralised information and control, but a decentralised service for improved support.

“ This utility company now has reliable and connected voice and data communications across the huge area in which it operates. This helps it achieve its primary goals of operational safety and efficiency, and improved coordination between its field teams and its control centre. Ultimately, this enables it to provide a better service to its customers.



Benefits

The MOTOTRBO system has enabled the company to reduce its network's physical infrastructure and integrate some of its incumbent radios for increased ROI, whilst improving the system's coverage, reliability, and functionality. User feedback has been exceptional. Workers praise the impressive audio clarity, which means they can always hear numbers and codes clearly, and feel they can work more safely, productively, and efficiently. Operators, meanwhile, are finding that the enhanced, connected communications and functionality enable them to better manage and coordinate workers and assets in the field, improving operational safety, incident response, and customer service. This enhanced coordination and efficiency, in turn, helps the company keep its grid operating effectively to deliver a reliable supply to customers.

The system is fully scalable, flexible, and much easier to monitor than the previous system, helping the company to comply with RETIE regulations regarding communications systems for utilities in Colombia. It also offers a wide range of options for future integration, including IP video security systems, the company's power infrastructure, such as reclosers, and Motorola Solutions' workflow automation platform, Orchestrate.



Benefits

- Reliable coverage across the whole operational area
- Clear, connected communications
- Improved productivity and efficiency with centralised control
- Enhanced functionality, such as GPS, event logging and voice recording, for statistics and tracking
- Improved organisation and cooperation, enabling faster response to incidents or customer call-outs
- Scalable system with numerous integration possibilities, including incumbent radios for maximum asset lifecycle





To learn more, visit:
www.motorolasolutions.com



Motorola Solutions Ltd., Nova South, 160 Victoria Street, London, SW1E 5LB, United Kingdom

MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the stylised M logo are trademarks or registered trademarks of Motorola Trademark Holdings, LLC and are used under licence. All other trademarks are the property of their respective owners. ©2026 Motorola Solutions Inc. All rights reserved. 05/2026