



CONSERVING ITALY'S NATURAL HERITAGE

MOTOTRBO KEEPS PATROLS IN CONTACT ACROSS PROTECTED GRAIAN ALPS



Rangers at Italy's Gran Paradiso National Park are tasked with the management and protection of some 710 km² of alpine terrain between the Aosta Valley and Piedmont regions. Situated in the Graian Alps on the French-Italian border, the park has a unique ecosystem of international significance and is home to a broad variety of fauna, including golden eagles, lynx, alpine chamois and over 1000 different species of plants.

To conserve the region for present and future generations, the Italian State declared the Gran Paradiso National Park a protected area in 1922 and the park authority oversees environmental education programmes and promotes sustainable tourism.

Communication between patrol teams is critical to ensure their safety as they traverse the park's vast and often inhospitable terrain. So to provide reliable, wide area communications, the park has installed a simulcast network from Motorola application partner Radio Activity, based on MOTOTRBO technology, with dispatch, GPS localisation and voice recording applications from BPG Radiocomunicazioni.

CUSTOMER PROFILE:

Company:
Gran Paradiso National Park
(Ministry of the Environment)

Industry Name:
Tourism

Motorola Solutions Partners:
BPG Radiocomunicazioni (Authorised
Distribution Partner and MOTOTRBO
Application Development Partner)

Radio Activity (MOTOTRBO Application
Development Partner)

Key Benefits:

- Secure, reliable voice and data communications
- Cost-effective, wide-area solution with enhanced functionality
- GPS localisation and mapping improves staff safety
- Improved call management, private and group call capability

Product Name:

- Radio Activity Simulcast dual mode network (4 VHF repeaters connected through narrowband UHF links)
- MOTOTRBO digital radio system
- 100 DP 3601 portable MOTOTRBO radios with TRBOPLUS option boards
- 6 DM 3600 mobile MOTOTRBO radios
- 3 BPG COM radio dispatch software modules with Talk Manager, Talk Finder and Talk Recorder
- 100 Remote Speaker Microphones

“The move to a digital simulcast radio network has given us better privacy and more widespread coverage, while the ability to pinpoint the location of our rangers anywhere in the park has greatly enhanced staff safety. Being able to customise our communications and add more functionality facilitates our job of protecting this unique heritage.”

Dott. Stefano Cerise, Surveillance Inspector

THE CHALLENGE

Gran Paradiso National Park rangers often spend days on their own in the mountains when doing surveillance patrols. Teams need to stay in constant contact to co-ordinate surveillance efforts and synchronise the gathering of information - particularly when they are conducting a census. The area is subject to extreme weather conditions and varied terrain, from deep valleys to peaks soaring over 4000 metres high.

The park had a conventional analogue two-way radio multisite system, which was susceptible to interception. In addition to increasing the privacy of communications, they wanted a solution that would enable them to pinpoint the location of staff and provide the reassurance that their radios would continue working even after they had been dropped in a river or in the snow.

The solution needed to provide reliable, widespread coverage, to ensure there were no radio dead zones. The mountainous terrain, fluctuating temperatures and regulatory restrictions on the number of frequencies which are permitted per customer posed several challenges.

THE SOLUTION

BPG Radiocomunicazioni installed a simulcast network which uses the same frequency for all repeaters, providing an open communication channel across the entire area for real-time roaming.

The repeaters are installed at points over 1500 metres. One of the sites is only accessible on foot or by helicopter and the lack of infrastructure required a combination of solar and wind power to ensure full coverage throughout the park.

The network is a simulcast system which provides integrated voice and data communications for MOTOTRBO terminals. Six DM 3600 fixed dispatch radios have been installed at three control rooms and the rangers are equipped with DP 3601 portable radios with a built-in GPS modem. The radio complies with the IP57 specification for water submersion and its emergency button enables users to alert the control room instantly in a crisis situation. By wearing a remote speaker microphone, the rangers can talk or listen while

keeping their hands free and carry their radios in their backpacks.

The park has increased the capabilities of the network with a variety of applications. The Talk Manager software module, combined with a TRBOPLUS option board which is installed in each DP 3601 radio, enables the park's control room to manage private and group calls and to monitor radios remotely.

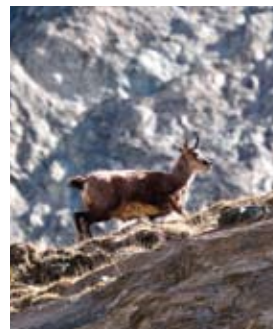
Using the Talk Finder application, the GPS location of each radio can be polled at regular intervals and displayed on a map in real time. GPS Data Logger stores the position of users on an internal flash memory which can be downloaded onto BPG COM or Google Earth for future analysis. Live radio traffic is recorded using the Talk Recorder application, to provide historical data that can be reviewed to enhance the efficiency of surveillance operations.

THE BENEFIT

The combination of feature-rich voice and data communications on a single MOTOTRBO system with 16-key encryption gives the Gran Paradiso National Park a customised solution that meets its needs for privacy and reliability.

The simulcast network only uses a single frequency, reducing licence costs and providing an economical and wide area solution with continuous roaming and hand-over. The BPG COM dispatcher software makes it easier to manage calls, text messages and to co-ordinate responses in an emergency situation. It also enables the rangers to send a pre-defined message – such as “fire” or “wounded animal” - with GPS co-ordinates to alert patrols.

MOTOTRBO's ability to communicate in both analogue and digital mode allows the park rangers to send a 5-tone distress call via the region's analogue Mountain Rescue channel to summon assistance in an emergency. Staff safety has been further enhanced through the ability to remotely access the GPS co-ordinates of each radio, so the rangers can be located quickly in an emergency directly from another portable radio.



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