



THE AZORES REGIONAL CIVIL PROTECTION AND FIRE SERVICES LAUNCH GROUNDBREAKING MOTOTRBO™ NETWORK ACROSS THE NINE ISLANDS OF ITS ARCHIPELAGO

RELIABLE COMMUNICATIONS AND ENHANCED APPLICATIONS IMPROVE INCIDENT RESPONSE



THE AZORES REGIONAL CIVIL PROTECTION AND FIRE SERVICES

The Azores, an autonomous region of Portugal, are an archipelago spread across 645 kilometres in the mid Atlantic and are home to about 250,000 inhabitants. The volcanic islands are characterised by dramatic landscapes, fishing villages, green pastures and hedgerows of blue hydrangeas. The Azores Regional Civil Protection and Fire Services (SRPCBA), headquartered on the island of Terceira, is a local government agency responsible for ensuring public safety and order and managing fire and rescue services.

SRPCBA had previously been using an analogue simulcast radio network from Motorola Solutions installed and managed by Globaleda. Globaleda is a leader in the Azores in the mobile radio business, and a long-term partner of Motorola Solutions. As the analogue system started to become outdated, SRPCBA decided to work with Globaleda to install a MOTOTRBO digital radio network. SRPCBA wanted enhanced coverage and reliability, as well as the added functionality DMR can offer, such as increased calling capacity, GPS, recording, alarms, data communications and emergency calls.

SRPCBA enjoyed a seamless, phased switchover with no network failures or interruptions in service, with new users operating the MOTOTRBO radios in analogue mode until the migration was complete. The MOTOTRBO network is exceeding expectations; it is exceptionally robust, reliable, resilient and secure. End users are enjoying instantaneous, high-quality audio communications across the archipelago. Rodrigo Mira, Vice President, SRPCBA comments: "We can better communicate with and coordinate all the agencies and the emergency personnel in our regional civil protection system now, as we know the exact position of all resources in real time, increasing safety and efficiency for emergency response. The new network offers even better coverage and audio quality across our whole area. It's reassuring – and essential – to know we can always rely on our radio terminal to communicate, whatever the emergency is. The MOTOTRBO network is definitely one of the most important keys to the success of our emergency services – now and in the future."

CUSTOMER PROFILE

Organisation:
Serviço Regional de Proteção Civil e Bombeiros dos Açores (SRPCBA) – The Azores Regional Civil Protection and Fire Services

Industry:
Public Safety

Location:
The Azores

Partner:
Globaleda-Telecomunicações e Sistemas de Informação, SA

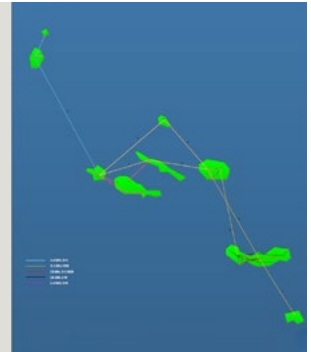
Motorola Solutions Products:

- MOTOTRBO System comprising:
 - 90 MTR 3000 VHF Base Stations/Repeaters
 - 350 DP4400 Portable Radios, including RSMs (Remote Speaker Microphones) and leather carrying cases
 - 350 DM4800 Mobile Radios
 - IMPRES™ batteries and chargers
 - Motorola Solutions OTAP (Over The Air Programming)



“Each island needs a fully operational internal communications system, independent of the other islands, along with the capacity for an inter-island network for full-scale, fast emergency response and aid, in case of a major incident, such as an earthquake or a tornado. This is especially critical for the more remote islands, which do not always enjoy stable telecoms connections. For such a large-scale, challenging digital network as this, MOTOTRBO was the only solution. And the added functionality of the digital network delivers huge added value for incident management; it has greatly boosted the efficiency of our relief and support teams.”

Paulo Moniz, Administrator, Globaleda-Telecomunicações e Sistemas de Informação, SA



CHALLENGE

SRPCBA needed a wide-reaching network that could spread over the 650 kilometres across the rough environment of the North Atlantic, whilst giving each island its own internal, autonomous communications too. The area is prone to extreme weather patterns and earthquakes, which preclude the use of fibre optics, for example.

SRPCBA wanted an independent, highly reliable network with built-in redundancy to ensure alternative routing of voice and data traffic if a repeater station should fail; this would ensure continued communications in emergencies, when standard mobile and landline telephone networks can break down. It was also agreed that the network dispatch and control centres should be installed in premises of high resilience and structural robustness, whilst remaining fully mobile and flexible, in case of the need for relocation.

The network needed to be fully scalable and capable of coping with the high level of communications expected during a major incident, with the option to be able to link to public phone networks, aircraft and ships. The security of the system was essential, due to data protection and the often sensitive and confidential nature of information being communicated. SRPCBA also wanted improved functionality, with options such as private calling to avoid rumours and panic in emergency and disaster scenarios, the recording of all the information conveyed, the real-time supervision of systems, geo-referencing and GPS tracking, all in real time.

SOLUTION

Working in collaboration with Globaleda, SRPCBA has installed a MOTOTRBO network comprising 90 VHF MTR3000 repeaters located across 30 sites on the 9 islands. Globaleda has installed the network so that each island has its own internal communications system, using 13 GHz microwave links, and to connect the islands, Globaleda has set up 2 GHz microwave links in a ring topology. In both cases, the microwave links are configured with 1+1 hot standby to improve resilience.

SRPCBA's main control centre is located at its headquarters on the island of Terceira; however, it also has an important commercial and dispatch centre on the larger island of São Miguel. All communications on the MOTOTRBO network are channelled through these two centres, interconnected when necessary and recorded on the site servers. Teams at the dispatch centres use the latest version of TRBOnet™ Enterprise for incident ticketing, fleet messaging and to track and mobilise teams, following users on maps in real time; this ensures they can quickly deploy the best positioned agent to any incident. The network is monitored from the centres, with alarms being triggered in cases of failure or intrusion into any of the repeater sites. Centralised IT teams also programme and manage the entire radio fleet, pushing out application updates, such as the installation of new software, updating talk groups and changing contact lists, via Motorola's OTAP tool.

The repeater stations have been designed to withstand lightning strikes and seismic waves and Globaleda has designed bespoke earthquake-resistant steel-reinforced cases to house the MTR3000 repeaters. Furthermore, each station has back-up batteries and emergency generators, to ensure at least 24-hour autonomous continued operation in the case of a major power failure; the batteries are firmly fixed to the battery holding systems, in order to minimise the risk of falling in the case of a seismic event.

Users – including firemen, ambulance drivers and other emergency medical and public safety agents – are equipped with DM4800 radios for in-vehicle use and DP4400 portable radios. SRPCBA has deployed 700 radios to date, but will roll out at least a further 250 radios in the near future. All the radios have IMPRES batteries, to ensure extended battery life, and the portable radios also come with leather carrying cases and microphones, to allow hands-free usage.

Applications:

- TRBOnet™ Enterprise

Usage:

- Voice and data communications across the nine islands spread out over the Atlantic Ocean
- Emergency, group and individual calling
- Personnel tracking via GPS and geofencing on live maps
- Voice dispatch
- Recording of all communications and logging of all events
- Remote radio programming and monitoring

CASE STUDY

MOTOTRBO FOR THE AZORES



BENEFIT

The new MOTOTRBO network ensures emergency and public safety teams can communicate reliably and autonomously across the territory, even in the case of a major incident. The network has exceeded the target coverage levels of 95% of the territory and 98% of the population. SRPCBA is enjoying the benefits of centralised headquarters, but also a decentralised infrastructure, too, with the TDMA technology permitting infrastructure cost savings. The OTAP software tool is driving further efficiencies and cost and time savings, as centralised management and programming eliminates the need for travel between islands and radio downtime.

Users are seeing ground level operational benefits; previously there had often been delays in connecting, especially to the outlying islands; now, however, communications are instantaneous with features such as PTT and automatic roaming speeding up contact. The robust MOTOTRBO radios are perfectly suited to work in the field and audio quality is excellent, which helps to eliminate repeat messages or miscommunications.

The MOTOTRBO system is helping the Azores' fire and safety teams to coordinate more efficiently, reduce incident response time and serve the community more effectively. Looking forward, SRPCBA is planning to further increase the functionality of the MOTOTRBO system, by adding new interfaces with medical software applications, such as extra GPS positioning of ambulances and advising hospital preferences.



Benefits:

- The MOTOTRBO network provides communications across the archipelago, with SRPCBA exceeding its coverage target of 95% of the territory and 98% of the population
- The independent, highly reliable network with built-in redundancy, remote monitoring and back-up batteries ensures continued communications even in emergencies, such as earthquakes and severe weather conditions, when standard mobile and landline telephone networks fail
- The network is highly secure, which is essential due to the often confidential and critical nature of communications
- The system offers increased channel capacity with reduced infrastructure thanks to MOTOTRBO's DMR-compliant TDMA technology
- SRPCBA enjoyed a seamless, phased switchover with no loss in service
- The robust radios offer increased functionality, with features such as multiple user groups, private calling and PTT, which ensures operators can reach the right contacts quicker and confidentially, when necessary
- Users enjoy crystal-clear communications, with MOTOTRBO's background noise suppression and the Intelligent Audio feature, which automatically adjusts radio volume according to the level of background noise
- Automatic roaming ensures best coverage available with no inconvenience to the operator
- IMPRES batteries ensure the radios remain fully operational, even during exceptionally long shifts
- Lone workers are safer due to the GPS tracking and lone worker features
- Real-time location for a better coordination and integration between all agencies in the regional Civil Protection and Fire Services System
- The recording and logging of communications and events enables post incident traceability
- Remote radio programming saves significant time and costs of travelling between islands
- The network is future-proof and scalable, with SRPCBA already planning to increase the number of portable and mobile radios up to 1000 radios in the near future

For more information on MOTOTRBO please visit us on the web at www.motorolasolutions.com/MOTOTRBO

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