

CASE STUDY

DJIBOUTIAN NAVY, REPUBLIC OF DJIBOUTI, NORTH-EAST AFRICA



NAVY DEPLOYS MOTOTRBO™

MARINE SURVEILLANCE AND SECURITY IN DANGEROUS WATERS



DJIBOUTIAN NAVY, REPUBLIC OF DJIBOUTI, NORTH-EAST AFRICA

The Djiboutian Navy is responsible for protecting and monitoring commercial shipping in the waters off the 314 km coastline of Djibouti, including the Bab-el-Mandeb strait. This dangerous stretch of water provides a strategic link between the Indian Ocean and the Mediterranean, via the Red Sea and the Suez Canal. More than three million barrels of oil pass through the strait daily.

The navy had previously used an analogue radio system for communication. However, this system was costly and slow. Moreover, there were no links in place between the patrol vessels and shore-based operations. Users on the water also suffered radio interference and dropout spots.

To improve operational communications, the Djiboutian Navy wanted to upgrade to a higher performance, cost-effective digital radio network. It required a powerful, fast system to link its patrol vessels to the shore-based signal stations and the command centre in Djibouti. The network had to be completely reliable over 200km² of open water and able to function in extreme weather conditions. It also needed a robust radio set, suitable for on-board usage, which could simultaneously use the digital network and the analogue VHF marine band.

The navy has installed a MOTOTRBO network with IP Site Connect and MOTOTRBO digital radios. The network provides high-speed links for uninterrupted voice and data communications across the area patrolled by the Djiboutian Navy. The network has significantly improved surveillance and response time to any incidents, vessels in distress or the threat of piracy.

CUSTOMER PROFILE

Organisation

The Djiboutian Navy

Industry

Marine security

Partner

Soicex Electronique S.A.

Applications

- Digital voice and data communications between signal stations, patrol vessels and the command centre for marine surveillance and safety
- Analogue voice communications with other vessels



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“We now have the necessary reliable and cost-effective communications system in place to protect and monitor shipping in our waters.”

Director of Maritime Affairs, Djiboutian Navy

CHALLENGE

The Bab-el-Mandeb strait, “Gate of Grief” in Arabic, derives its name from the dangers of its navigation. Moreover, located at the entrance to the Gulf of Aden and near the coast of Somalia, Djibouti plays an important role in the fight against piracy.

In order to manage its daily operations, the navy needed reliable voice and data communications across 200km² of open water to link its personnel on board its patrol vessels, to staff manning the on-shore signal stations and command centre. The wireless solution would need to be robust enough to guarantee maximum performance in the extreme climatic conditions of Djibouti, with its high temperatures, the risk of severe storms at sea and ever-present atmospheric dust.

Moreover, the naval teams would also need to communicate seamlessly with all other vessels which use analogue VHF radios over marine-band frequencies such as Channel 16.

Drawing on its thirty years’ experience of delivering successful radio-communication deployments in Africa, Soicex Electronique recommended a turnkey MOTOTRBO solution in conjunction with its own VHF analogue-digital interface.

SOLUTION

Two DR 3000 repeaters were connected using three wireless Ethernet bridges to provide high-speed, reliable, secure voice and data connectivity across the Djiboutian territorial waters, irrespective of climatic conditions. With IP Site Connect the navy has been able to create a wide area of coverage and its vessels can patrol the length of the coastline with no change to the network coverage. The radios’ automatic roaming feature also allows them to select the best signal available without the need for any manual tuning, so users can enjoy clear, unimpeded communications at all times.

The three analogue-digital interfaces, developed by Soicex Electronique, allow vessels equipped with

marine-band VHF radios to connect seamlessly to the digital MOTOTRBO network and vice versa. As the DP 3601 and DM 3601 radios permit operation in both digital and analogue, the navy is able to use just one handset to communicate over the digital network and the marine-band VHF channels.

The radios also meet the demanding IP57 specifications for continued operation in tough working conditions and even when submersed in water, essential for radios used on the patrol vessels. The DP 3601 have been equipped with the external remote speaker microphone for easy and safe communication. This microphone boasts a revolutionary wind-porting feature, which helps to lessen background noise from high winds and other severe weather conditions.

In the near future the navy may use the integrated radio GPS for advanced personnel, vessel and vehicle tracking.

BUSINESS BENEFITS

The robust network, fast and easy to install, provides consistent voice and data communications over a wide area, both on land and sea. Navy personnel are delighted with the MOTOTRBO solution. They are better connected and have instantaneous information at their fingertips. This helps them to work more safely and productively and make better-informed decisions.

Navy reaction time to incidents has decreased. And shipping monitoring has significantly improved, in line with a key resolution in the Djibouti Code of Conduct concerning the Repression of Piracy and Armed Robbery against Ships in the Western Indian Ocean and the Gulf of Aden.

Finally, important cost savings have been achieved through the ability to use the wireless Ethernet bridges to provide connectivity – rather than using expensive satellite links – as well as the use of a single radio to connect across various networks and frequencies.



Motorola Solutions Products

- **Infrastructure**
MOTOTRBO IP Site Connect
2 DR 3000 repeaters
- **MOTOTRBO radios & accessories**
18 DM 3601 series mobile two-way radios VHF version
15 DP 3601 series portable two-way radios VHF version
IMPRES™ remote speaker microphones
Universal Chest Packs

Key Benefits

- Reliable robust radio coverage over 200km²
- Instantaneous inter-connectivity between sites
- Single IP57 specification radio set with automatic roaming working across the MOTOTRBO digital network and the analogue VHF marine band
- Significant cost savings

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