



RADIO APP HELPS GUARD AGAINST TSUNAMIS



Customer

Ministry of Natural Resources and Environment (MNRE), Samoa

Industry

Emergency services

Technology Partner

MCS Digital Ltd

Need

- A reliable communications system/emergency response network (ERN) for emergency services in Samoa

Benefits

- Faster emergency response times
- Better coverage
- Interoperability between agencies
- Cost reduction

“The whole aim of the system is to reduce response times to save more lives. That’s the goal of early communication ... Time can cost lives, money and resources, so by reducing time the emergency response is more effective.”

Filomena Nelson, assistant CEO, Disaster Management Office, MNRE

“Samoa has always had issues with real-time communications, but the 2009 tsunami really highlighted a number of communication challenges, especially in the coordination of search and rescue. After significant loss of life and severe communications limitations, the Ministry of Natural Resources and Environment (MNRE) – in its capacity as the main government agency with a legal duty to coordinate disaster risk management in Samoa – picked up the role of coordinating a solution,” explains Filomena Nelson, assistant CEO, Disaster Management Office, MNRE.

The MOTOTRBO emergency response network (ERN) consists of 12 repeater and linking sites, with four DMR repeaters at each site (48 repeaters in total), all linked via microwave IP radio. The system is designed so that emergency services have seamless communication across the two islands of Samoa. Twenty three sirens are installed along the south coast of Upolu, a key risk area where the 2009 tsunami caused the greatest damage, and co-located on Digicel Samoa Ltd cell sites. Each siren is connected to the ERN via a dedicated MOTOTRBO radio, which is monitored and controlled with SmartPTT dispatch and monitoring software enabling a number of benefits:

- **Snapshot view of siren status:** By using the SmartPTT application at the national emergency operations network (NEOC), operators monitor any siren failure onscreen. SmartPTT provides the status of mains power to each siren, which is critical because power outages are common in Samoa.
- **Manual activation:** Someone at the siren site can manually set off the siren. SmartPTT then alerts the NEOC that a siren has been locally activated and operators can determine the legitimacy of the alert and next steps.
- **Rapid diagnosis:** All repeaters are monitored and displayed graphically via SmartPTT, enabling rapid diagnosis of faults, signal strength and calling logs.

Further benefits of the communications system include:

Faster response times: “A network that works across Samoa is fantastic to say the least,” says Laupueula Laupue, former assistant commissioner operations for the Samoa Fire Service. “We can now converse via radio any time, day or night, and every station can listen in an emergency.” Nelson adds: “The whole aim of the system is to reduce response times to save more lives. That’s the goal of early communication because of the distance between sites. Time can cost lives, money and resources, so by reducing time the emergency response is more effective.”

Better coverage: Previously 15-20 per cent of the country had coverage, but this is now more than 95 per cent. SmartPTT enables connectivity from the control centre to the sirens across mountain ranges over 1,000 metres high and a significant distance.



CASE STUDY: TWO-WAY RADIOS

Ministry of Natural Resources and Environment (MNRE), Samoa



Interoperability: “Emergency services can now talk to each other in addition to having their own channels. So in an emergency, everyone can talk together in a conference call,” says Laupue. “This is a key benefit and the main reason why I like the system because it enables multiple users: the hospital, the Red Cross, police, fire and other key emergency services,” adds Nelson.

Cost reduction: “Previously each organisation had their own system, but was not able to maintain them. Combining the solutions has provided lots of cost savings as organisations such as the Red Cross no longer have to invest in their own independent system. We also save costs by providing information over the radios, without actually going to distant locations,” says Nelson.

Partnership: Nelson notes that the partnership with the private sector and within the public sector has been a significant benefit of the project.

Finally, working with MCS Digital Ltd proved an effective partnership: “Working with MCS was a positive experience. They did everything to make the system functional, and customised the system so that it meets our needs here in Samoa,” says Nelson.



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