



Photo credit: NZ Defence Force

Analogue to digital upgrade for nationwide military voice backhaul

New Zealand Defence Force



Requiring an analogue to digital voice backhaul upgrade to their base camps, New Zealand Defence Force (NZDF) deployed a nationwide network of resilient, high-capacity Tornado radio links to boost the safety of their personnel.

Photo credit: NZ Defence Force

CHALLENGE

Several of the New Zealand Defence Force base camps are remotely located meaning terrain and climate challenges were key considerations during the RF design phase of the project.

Furthermore, two of the NZDF sites are in the mountainous central regions of both the North and South Islands. Snow and ice are therefore a regular winter feature with the temperature dipping to -8° C (17° F) in the South Island location during deployment.

Another key consideration was power draw. While most of the NZDF locations are mains-powered sites with battery backup, some are solar-powered and therefore the lower power consumption of the Tornado radios was a key aspect of their selection.



THE DEPLOYMENT

NZDF's old analogue system required personnel to share channels. The greater network capacity provided by the Tornado radios has resulted in different NZDF teams having their own dedicated channel for voice communications.

- The high-capacity voice backhaul links at NZDF camps and bases are used for unclassified (unrestricted) voice communications for:
 - Range safety (i.e. ensuring firing stops to maintain personnel safety)
 - Emergency services
 - Security guards, and
 - General non-encrypted base communications.
- The priority traffic at each location is range control with each range now having a dedicated channel.
- Residual bandwidth in the network has allowed nationwide channels for New Zealand's Civil Defence service

"I don't believe we have had a single failure of the Tornado radios, to date. The system upgrade has been very well received and the benefit of having extra channels has increased the number of users, helping our camps and bases to operate smoothly."