NOKIA

Rapid Deployment TETRA

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Summary of changes

1 Introduction

Major disasters or other incidents in remote areas often bring together large teams from the police and other public safety organisations. These personnel need to work closely together, but this can pose a problem if the existing mobile radio communication systems do not cover the area, for example, in a forest or a mountain valley. Even if there is an existing system in place, its capacity may not provide enough resources to handle the radio communication needs of all the people involved in a major rescue operation.

Rapid Deployment TETRA can provide secure and efficient voice and data communication facilities at extremely short notice for just such an event.

2 Rapid Deployment TETRA System description

The system can be implemented in mobile containers, with different configurations available to suit the needs of the end users. The containers should be capable of arriving on the scene at extremely short notice, perhaps within a couple of hours. Transportation of the containers by helicopter or truck should be considered.

Such a TETRA container node should include as a minimum the following elements installed and ready to use:

- Nokia DXTip (digital exchange for TETRA)
- Nokia TBS (TETRA Base Station)
- Nokia dispatching equipment with a TETRA connectivity server
- a number of standby TETRA terminals
- mobile power supply and a rapid-erection mast system for the TETRA antenna. The coverage available from an antenna will depend on the terrain and the height of the antenna mast.

It would be possible to expand the system and connect it to the outside world using a wireless LAN (WLAN) system, if coverage for such a system exists.

The terminals should be in standby mode and ready to use immediately upon arrival. The dispatcher can create new talk groups over the air (DGNA) and specify the priorities for users as needed.

The TETRA node described would provide the capacity of 8 carriers, which is equal to 31 traffic channels. This capacity could serve up to 1500 end users. In addition, TETRA provides direct mode communication between terminals without TETRA base station coverage.

Since the Nokia TETRA system and TETRA terminals are extremely simple to use, users can adapt quickly to the system with short, on-the-spot training sessions.