



# FROM HILL TO HIGH WATER, ENHANCED COMMUNICATIONS FOR UK LOWLAND SEARCH AND RESCUE

CREATING A NATIONAL COMMUNICATIONS NETWORK FOR SEARCH AND RESCUE WITH MOTOTRBO™



## LOWLAND RESCUE

Lowland Rescue is a self-financing organisation comprised of more than 1800 highly trained volunteers that are called upon by local Police Search Advisors (POLSAs) to provide search management and physical search for high risk missing persons - typically those with dementia, the despondent or suicidal and missing children. For the past 25 years the Association of Lowland Search & Rescue's (ALSAR) teams have worked 'from hill to high water' alongside Mountain Rescue, Cave Rescue, RNLI and other registered UKSAR assets providing Search & Rescue support to the emergency services.

ALSAR, a member of the UKSAR Operators Group, coordinates individual Lowland Rescue teams and during the first few vital hours of a missing person report can call upon 36 search teams in the UK with specialists in dog handling, flood rescue and waterway search.

### CUSTOMER PROFILE

**Customer:**  
Association of Lowland Search & Rescue

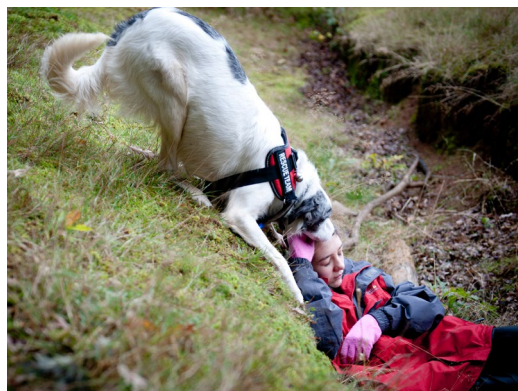
**Industry:**  
Public Safety

**Location:**  
UK

**The project:**  
Installation of a new MOTOTRBO Linked Capacity Plus radio system to address search for missing persons

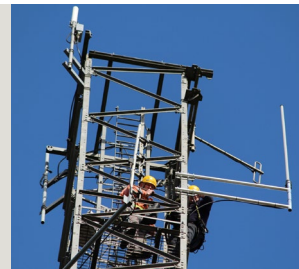
### Motorola Solutions Products:

- MOTOTRBO DR 3000
- MOTOTRBO DM4601
- MOTOTRBO DP4601
- MOTOTRBO DP4801



**“We selected MOTOTRBO digital two-way radio because, straight out of the box, it let us communicate on a wide area basis, creating a Talk Group Plan which is consistent across all the UK’s teams.”**

Paul Westwell, communications officer, Lowland Rescue



## CHALLENGE

Required to search on water, through dense woodland and open lowland and heath areas, a typical scenario will see the POLSA initiate a team call. Selected on a county basis relevant search resources are given details of the missing person and the rendezvous point (RvP) where the search team is to meet. Once at the RvP, there will be a briefing from the Search Manager based in the Incident Control Vehicle and allocation of areas for the trained volunteers to search. This entire process depends on Lowland Rescue having access to wide area communications that connect the Search Manager and teams on the ground.

Lowland Rescue also has particular demands of this macro network. It requires provision of wide area communications between geographically distant teams to enhance mutual aid and increase resources for complex or intensive searches. It requires enhanced location based services to better track and plan the movement of rescue team members, for efficient and safe searches. With teams often expected to operate in difficult physical environments and in poor weather conditions on potentially sensitive searches for missing people, the communications also need to be rugged, with exceptional audio clarity and secure transmission.

## SOLUTION

Lowland Rescue has created LRnet, a cost-effective, high-capacity, voice and data wide area communication solution based on a MOTOTRBO Linked Capacity Plus (LCP) system that joins Lowland Rescue’s single sites across an IP network.

LRnet deploys eight fixed MOTOTRBO DR 3000 repeaters with plans to extend to 16, and additional mobile repeaters fitted to incident control vehicles. This extends the current network from Cheshire in the north to the U.K.’s southern coast.

300 MOTOTRBO DP4601, DP4801 handheld radios and DM4601 vehicle mounted mobile radios registered on the network are tracked by a registration database that includes their last known location. Lowland Rescue has also integrated SAR mapping applications via a common Global Positioning System (GPS) database. The MOTOTRBO digital radios report their location at regular five minute intervals to a resilient central LRnet database and are shown on this national mapping system.

## BENEFITS

All volunteers available for call outs, once paged, will head towards the RVP. Those in vehicles installed with DM4601 digital radios immediately populate LRnet’s map showing live status of assets. Lowland Rescue’s Search Managers can now monitor progress of the team members on the way to the RVP without having to repeatedly call to ascertain current locations.

Mutual aid is very common within Lowland Rescue and the wide area network also enables the Search Manager in the Incident Control Vehicle to instantly call on the expertise of other search managers elsewhere in the country to assist in search planning.

With the search team assembled and search plan agreed, the teams will commence searches based on established statistics and trends that provide recognisable patterns of behaviour. The despondent will not want to be stumbled upon by the general public, so will take themselves out of sight of footpaths, whereas those suffering dementia are likely to go missing within just 25 metres of a defined route or path. The enhanced location-based functionality of the handheld radios provides an accurate real-time representation of the current status of the search being carried out and specified Talk Groups enable the Search Manager to control team movements and respond to individual or team requests for information or aid.

With the DP4601 and DP4801 radios rugged design, which is tightly sealed against wind and dust, and capable of being submerged in up to a metre of water for half an hour, searchers have communications devices that meet the demands of the environments they regularly find themselves working in. There is also a potential for searchers to be operating individually, so audio clarity and encrypted transmission delivers a strong safety aspect for the searchers using the radios. Should they encounter a problem the radios also incorporate an easy to locate emergency button. This can be programmed to send an alert to the Search Manager when pressed, with the searcher’s location immediately displayed on the map and a loud alert tone issued from the handset to enable other team members to quickly locate the member in distress.

Thirteen Lowland Rescue teams have already migrated to LRnet with the others planning to rapidly follow.

### Applications:

- GPS tracking with integrated SAR mapping
- National Talk Group plan
- Emergency button

### Key Benefits:

- National interoperability across teams enables greater mutual aid
- Asset tracking enhances efficiency of search and safety of team members
- Robust handsets with clear, secure communications and emergency alert facility

**“The Police Service is having to do more with less, and is becoming increasingly more reliant on professional volunteers. Developing mission critical communications solutions that bring our teams and hopefully other SAR organisations onto a single, interoperable network is one of our responses to this challenge.”**

Kris Manning,  
chairman,  
Lowland Rescue

To discover the advantages Motorola Solutions two-way radios can bring to your business, please visit:  
[www.motorolasolutions.com/mototrbo](http://www.motorolasolutions.com/mototrbo)

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