

Rebuilding communications after an earthquake using ACU technology

When a massive earthquake occurs, coordination of communications can be extremely difficult to mobilize. Rescue and aid efforts become hampered due to the surface ruptures and powerful aftershocks. Roads and buildings are badly damaged making it difficult for communications vehicles to get to the scene. Electricity and telephone outages prevent key communications. In the aftermath of an earthquake, increased mobility, simplicity and operational flexibility need to be planned for ahead of time to ensure that response communications can effectively occur.

On August 17, 1999, a massive earthquake, with a magnitude of 7.8 on the Richter scale, devastated northwestern Turkey's industrial belt, leaving up to 20,000 missing amid the ruins of a collapsed building. It is estimated that 2,000 people were killed and another 10,000 people were injured. The scale of devastation and human loss made it very hard to mobilize

emergency measures. The tragic events and lessons learned from this earthquake prompted the Turkish Gendarmerie crisis managers to plan for handling the immense logistical problems they will encounter with future earthquakes.

In the '99 earthquake, there was a problem of coordination on all levels among the search and rescue teams and the Turkish governmental agencies. Turkey is no stranger to earthquakes - much of Turkey sits on an earthquake prone zone known as the North Anatolian fault. In this particular earthquake, the Turkish city Izmit was mostly destroyed. The earthquake took down most of the telecommunications infrastructure including

underground cables, communication towers and switching centers.

The Turkish Gendarmerie crisis managers contracted Raytheon, Aselsan and MESAN to design and deliver mobile communications systems in order to meet the voice and data information needs in case of the future earthquake or any natural disaster. Raytheon's ACU-1000 was chosen to provide interconnections between the various types of communications systems that will be used in Turkey during a crisis situation.



ACU Controller software in use in Turkey mobile communications vehicle

to any desired accessible location to quickly provide a means of communication.

The systems are comprised of two configuration units, mobile and stationary. The mobile configuration consists of a reinforced mobile communications vehicle, including equipment that is mounted to a rack in shock and vibration resistant transit cases and can also be moved. The stationary configuration consists of communications equipment that is directly mounted to a standard 19" rack and near other standard office equipment to provide voice, fax and data communications.

Communications vehicles were delivered and installed

These mobile communications systems are highly reliable, secure and ergonomic. They are designed to be easily and rapidly deployable to meet the communication requirements of crisis management centers in case of a natural disaster, any emergency or in the instance of communications not being available in a tactical area. They can be moved

with an ACU-1000 as the core component and multiple radios and other communications equipment. To date, these mobile communications systems have been delivered to four different regions of Turkey, including a central command post in Ankara and vehicles in Istanbul, Bursa and Aydin. The systems provide immediate communications on the move without the need for local communication infrastructure. They also provide voice, data and fax communications from the field to the central command post in Ankara.

A major requirement to be satisfied by a quick deployable command post is the provision of communications for highly mobile subscribers, as well as wired-like communications and services over wireless circuits. Access to any mobile subscriber, regardless of location, is necessary and important. MESAN, Raytheon's representative in Turkey, has recently rehabilitated the communications vehicles to reflect the updated mobile technologies and enhanced environmental controls. Also, AKOM, Istanbul's Municipality Disaster

Coordination and Command Center, has been provided with an updated communications vehicle to be used in command and control efforts that is also equipped with an ACU-1000.

The deployment of these mobile command centers in a crisis or disaster emergency requires rapid deployment of all communication resources. Having mobile communications vehicles that are continuously updated with the latest technology, such as these vehicles in Turkey, help the country be better prepared for any crisis situations to come.

About Mesan:

MESAN was formed in 1991 as the representative and consultant company in the field of electronics in Turkey. Since then, MESAN has been providing equipment to the Turkish Armed Forces, the Gendarmerie, the Police, and other governmental agencies in Turkey. For more information on MESAN, please visit <http://www.mesanas.com.tr>.

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