



TETRA for World's Mega Events

How TETRA deployment can improve efficiency and ensure an open channel of communication



Background

The smooth running of major events, from basic co-ordination to high-end policing, is underpinned by communication. Without effective communication, an organisation is paralysed, which is why TETRA (TErrestrial Trunked RAdio) is the automatic choice for mission critical use.

Long-term communications infrastructure can be driven by major events as they often act as a catalyst for investment. For example, the Beijing Olympics Games, one of the largest events in 2008 has been a key driver for communications investment within public safety and multitransportation agencies.

The scale and complexity of the Beijing Olympics Games most certainly exceed and are unprecedented to any previous Games. Preparing for over five million visitors during the Olympics, the Beijing government started planning as early as 2004. Several public safety users and multi-transportation agencies invested in digital TETRA mission critical networks to replace legacy systems as part of the capital's public security and communications operations.

Over 100 sites in Beijing will be fitted with radio trunking systems to ensure seamless connectivity and coverage within the capital. All the TETRA subscribers and supporting infrastructure are already in full operation – ahead of the Beijing Olympics Games in August of 2007.

Supporting the Ecosystem

The Beijing Police was one of the first public safety agencies to migrate to the new TETRA system and purchase TETRA terminals. Starting September 2005, it purchased more than 27,000 units of the Motorola MTP850 TETRA terminal to replace its legacy system used by police and other public safety agencies.

CUSTOMER NEEDS

- Seamless voice and data services.
- Clear and reliable communications for public safety, security & transportation.
- Enhanced communication reliability and clarity for better control and management of operations.

BENEFITS

Better coordination

- *Better infrastructure in the long run*
When major events are the catalyst for investing in long-term communications infrastructure, it benefits the entire state – like Beijing's state-wide public safety and transportation.
- *Customised for greater efficiency*
The MTP850, customized with the Chinese language user interface, reaches out to the Asian markets and increases



The customised terminal is one of the smallest and most advanced digital TETRA portables, built and designed for Asian users in mind and includes a Chinese language user interface. It is now the TETRA subscriber of choice by these Chinese agencies on both the 800MHz and 350MHz systems.

Beijing Police has also recently awarded a contract to Motorola for a 350MHz TETRA system to be put in place, with 33 sites to meet the growing communication requirements of the force. Beijing Metro was one of the first transportation agencies in China to replace its 30-year old analogue based trunked system with Motorola's TETRA digital trunking platform for all of its eight Metro Lines. Beijing Light Rail did the same, equipping its Light Rail lines with Motorola TETRA communications systems.

The Beijing Capital Airport Express Rail Project recently engaged Motorola to implement the TETRA 800MHz digital trunk radio communications system for the airport rail link. It is the first unpiloted rail line in all of China's train dispatching operations. It involves trunked ground base stations, over 100 user terminals and 20 trunked vehicle-mounted stations.

Beijing General Station of Exit and Entry Frontier Inspection Unit replaced its ageing analogue trunked radio system with Motorola's 350MHz TETRA digital trunked radio system. The new radio communications network - equipped with the latest IP based TETRA digital trunking switches, base stations and user terminals - will serve the needs of the Frontier Inspections at Terminal 3 of the Beijing Capital Airport and will eventually be expanded to serve the entire Beijing Capital Airport.

Testing the Ground

The 2007 Special Olympics and the 10th Nanjing Games (2005) were also backed by Motorola's TETRA digital trunking system.

Motorola teamed up with the Shanghai Telecom to design a unified communications network to streamline communications for the city of Shanghai to enable 50,000 government agency users to communicate on a single unified platform. The system was put to its maximum test and loading during the Special Olympics held in Shanghai on October 2-11, which was then China's largest international sports event. The radio trunked network covered more than 190 sites across the city of Shanghai. Over 10,000 users benefited from seamless communications and in particular from the seamless 24-hour support from the Motorola team in China.

Motorola was also behind the Chinese National Games in 2005 held in Nanjing at the Nanjing Olympics Centre. The Motorola TETRA system proved to perform to expectations and was highly robust and fail-proof, providing uninterrupted communications and seamless coverage - essential for security and seamless coordination of large-scale sporting events

TETRA for Critical Events

When asked to cite examples of a TETRA network, most in the industry would point to long-term deployments such as those in Beijing or nationwide networks like Airwave in the United Kingdom. Yet TETRA is a highly flexible technology that is often deployed for specific major events on a project basis.

A further example of how TETRA is being utilised for enhanced communication at high security risk events was at the 2007 G8 Summit in Heiligendamm, Germany. A temporary IP-based TETRA system was created for public safety use. Motorola planned, built and operated the infrastructure to support the region's police, fire and ambulance services in just three months.

The network included 20 base stations, two command and control centers and 2,200 handheld radios including the MTP850 and MTM800. The robust and secure system supported TETRA 2 level data transmission and global satellite positioning to help manage security effectively.

Surveillance for the G8 Summit was aided by cameras utilising a broadband radio link system based on Motorola's Canopy® technology. This enabled the public safety organisations to continuously assess the situation in the region of Rostock, Heiligendamm and Rostock-Laage airport in real time, with 25 images per second.

Another TETRA network created specifically for an event was a temporary deployment for the EU-Russia Summit in Samara. The network was built on a permanent Motorola TETRA system in the Samara, deployed in 2004. It was created to provide a high quality service in a new part of Samara, from the airport, along the complex terrain, and all the way to the resort of Volzhsky Utyos where the summit took place.

The system supported over 500 subscribers at the two-day event, including the government of Samara region, security and law enforcement agencies, both before and during the summit. Motorola and MS Spetstelecom supplied and implemented the complete network, including MTP800 and MTH800 radios, in just four weeks.

What is clear from all of these high profile examples is the real transformation TETRA networks can bring to communications running up to and during national sporting or political events. As highlighted, major events require years of planning and security, safety and communications considerations are at the heart of each stage. A robust network TETRA assures governments, cities, event organisers and field workers a peace of mind that there will always be an open channel of communication, ensuring both public safety and seamless co-ordination.

TETRA is becoming a global solution and Motorola plays a central role in its future development; connecting even more organisations and providing even greater critical communications capabilities. No other technology can ensure "always on" and failsafe connections in the most challenging of situations.



MOTOROLA

Motorola Electronics Pte Ltd, Motorola Innovation Centre 12 Ang Mo Kio Street 64, Ang Mo Kio Industrial Park 3, Singapore, 569088, Singapore + (65) 6481 2000 <http://www.motorola.com/governmentandenterprise>

MOTOROLA and the Stylized M Logo are registered in the US Patent & Trademark Office. All other product or service names are the property of their respective owners. © Motorola, Inc. 2008 All rights reserved.