

Ready for the Olympics: Rohde & Schwarz provides expertise and T&M solutions for Beijing 2008

Rohde & Schwarz has a lot of experience with major sports events: During the Beijing Olympics, interference-free radiocommunications contributed to the Games' success.

The challenge: radiomonitoring

With a population of more than 17 million, Beijing has to cope with an extremely crowded frequency spectrum. Even on ordinary days, frequency management and radiomonitoring in the city are an enormous task for the regulatory authorities. But during the 2008 Summer Olympic Games, as the need to communicate – and with it the quantity of radio equipment – sharply increased, they grew into a veritable challenge.

In 2004, therefore, the Beijing Olympic Games Radio Management Committee (BOGRMC) was established to ensure secure radiocommunications during the Olympic Games. The committee began planning and preparation early on and gathered information and experience from other countries that had organized events of similar proportions. Between August 2007 and June 2008, numerous test events were held (“Good Luck Beijing”), where radiomonitoring procedures were tested, potential interference was detected and frequency request coordination was prepared.

More than 11,000 athletes took part in the 2008 Olympics, which were held in 36 stadiums in Beijing, as well as in the cities of Tianjin, Shenyang, Qinhuangdao, Shanghai and Qingdao. Altogether, the BOGRMC deployed more than 300 experienced engineers. They examined 7800 different communications devices and issued more than 10,000 labels to mark those devices that had passed the compliance test. In addition, 9037 license applications had to be processed and more than 21,000 frequencies assigned.

During the Games, seven fixed frequency monitoring stations, 32 test vehicles (FIG 1) and about 3000 portable monitoring and test devices were deployed in Beijing. In the other cities, approximately 50 fixed and mobile stations were utilized. More than 40 unauthorized transmissions and sources of radio disturbance that could have endangered the Games' smooth operation were detected, located and examined. And in the end, it all succeeded: There was no trouble, and not one critical situation occurred.



FIG 1 Rohde & Schwarz mobile direction finders supported the fixed systems from test vehicles.

Photo: author

FIG 2 The R&S®PR100 portable receiver and R&S®HE300 directional antenna modules help to trace interfering signals quickly and efficiently.



Photo: author

Expertise and T&M solutions from Rohde&Schwarz

As a main supplier, Rohde&Schwarz worked closely with the BOGRMC from the early planning phase to the end of the Games. Rohde&Schwarz made full use of its comprehensive technical experience and operational knowledge, which it had already gained at other major sports events, such as the 2004 Olympic Games in Greece and the 2008 European Soccer Championship in Germany.*

Numerous Rohde&Schwarz radiomonitoring and T&M solutions supported the engineers during the Olympic Games. Not only classic products, such as the R&S®ESMB/ESMC/EB200 receivers and the compact R&S®DDF195 direction finder, but also digital direction finders such as the R&S®DDF05E and the R&S®EM550 digital wideband receiver helped them accomplish comprehensive tasks.

Many fixed and mobile systems worked with the tried-and-tested R&S®ARGUS software. And just in time, the new R&S®PR100 portable receiver (FIG 2) was launched on the market and won users over: Its compact size, as well as its outstanding functions and technical characteristics, optimally met their needs. Thanks to its versatility, the receiver could be used successfully in a multitude of situations.

Rohde&Schwarz was also involved in the technical and operational training. In January 2008, the China representatives set up a support team for the Olympic Games to deal immediately with emergency and spare parts management, as well as other important issues. Starting in July 2008, every stadium had a 24-hour support team at the ready.

An Olympic achievement

The BOGRMC was greatly satisfied with the products and support from Rohde&Schwarz. As recognition, the Rohde&Schwarz representatives received two awards: one from the Beijing RMC local regulatory authority for their "Great Contribution to The Olympic Games for Radio Security" and another from the Qingdao RMC for "Selfless Support and Excellent Service". Naturally, the team was delighted with the awards and saw them as excellent qualifications for future success with systems and services in China.

Limin Li

* 2008 European Soccer Championship – also a technical challenge. NEWS from Rohde&Schwarz (2008) No. 198, pp. 74–75.