KENWOOD

Case Studies

Mal-Tel (Mal-Tel Communication Sdn Bhd)

NX-DIGITAL - All Area Covered
Malaysia's Digital Trunked Radio Service Provider

Since 1999 Mal-Tel Communication Sdn Bhd (Mal-Tel) has been providing radio communication services to public and private sectors in Malaysia. It added an analog LTR® trunking system in 2001, but now it is turning to digital solutions – the wave of the future. And Kenwood's NEXEDGE® represents the most advanced professional digital trunked radio service (DTRS) ever offered by Mal-Tel to network operators and end-users. The main advantage for public and private network users is the ability to migrate from the current analog system to the wider, better and clearer service of NXDN®, which satisfies spectrum requirements for today and tomorrow.
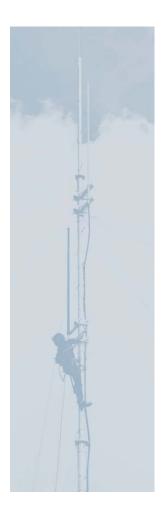

• Planning a digital future

To ensure that Malaysia's future radio communications requirements are met, the government is lending momentum to the industry's shift from analog to digital technologies. On July 14, 2010, an official announcement was made by the Malaysian Communications and Multimedia Commission (MCMC), the country's regulator for spectrum management, stating that the public trunking network will switch from 800MHz to the UHF 410-430MHz band (or other identified bands) by December 2015. One objective is to solve the problem of congestion in the 800MHz band, which from 2015 will be assigned to LTE (3GPP Long Term Evolution), an emerging standard that enables mobile phones to benefit from high-speed wireless data communications.

• Finding the optimum solution

Since almost 80% of the analog trunked radio service providers in Malaysia are currently operating in the 800MHz spectrum, traffic congestion is inevitable. Common problems faced by users are missed calls, garbled messages and degraded voice quality. Looking to provide its customers with a better service, free from these problems, Mal-Tel examined the latest digital technologies. And their conclusion was that Kenwood's NEXEDGE® system is the optimum solution.

• Meeting key criteria

What then were the most important reasons for Mal-Tel's choice? First, it was crucial that this digital radio technology can operate on 12.5kHz and 6.25kHz narrowband frequencies, making it 2 to 4 times more spectrum efficient that the current 25kHz analog network. Another priority was sound quality, and thanks to state-of-the-art AMBE+2™ vocoder voice compression technology, NEXEDGE® offers superior clarity at varying signal strengths, even in fringe areas.

There were of course other contenders, but for example TETRA would require many more repeater base stations to ensure the same coverage as NXDN®, and the P25 system is considered too expensive to offer a practical trunk radio solution for the general market in Malaysia.

• Offering nationwide coverage

In June 2011 Mal-Tel started building its own digital trunked radio service – the NX-Digital™ Service – powered by Kenwood's NEXEDGE® technology. As part of the company's nationwide roll-out plan, Mal-Tel's specialized sales teams are marketing subscription-based services and radio hardware in 13 zones spread across 6 main regions in Malaysia. For comprehensive service coverage, each of the 13 zones will have more than 30 sites and each site will have 5 to 20 NXR-800 repeaters. As of Feb 2012, 8 sites have been set up, with another 5 sites to be developed by June. Already there are almost 1,000 subscribers, but that is just the beginning. *"We hope to have 50,000 subscriber units before the total shutdown of analog trunked radio in Malaysia in December 2015"*, explained Simon Yew, CEO of Mal-Tel.