Singapore TETRA Network

Keeping Singapore safe: providing a nationwide TETRA network

Case Study

The most important thing we build is trust

Overview

Cobham Wireless was commissioned to deploy a nationwide TETRA communication system to be used by Singapore's first responders. This system was an upgrade of the existing TETRAPOL communication system.

Challenge

Singapore needed a communication system that was future-proof and could be easily expanded as the country continues to evolve. One main area focused on was the metro which currently stands at 180km of lines with plans to double in size by 2030.



The Challenge

Known as one of the Four Asian Tigers, Singapore has developed rapidly in recent times and is now one of the world's major commercial hubs. Home to many iconic and government buildings, as well as a busy metro network that spans the entire city-state, upgrading the nationwide public safety network that supports all Singapore's first responders would be a challenge.

Singapore had a legacy TETRAPOL network installed for a number of years and as it reached its end-of-life and the search began for an upgrade, the conclusion was that TETRA was the suitable technology of choice providing a future-secure network, with easy access to spares.

The completely new upgraded system would need to be flexible and future-proof with scope for further enhancements as the country continues to evolve. For example, the metro currently consists of 180km of lines but plans are in place for this to double in size by 2030 – the system that was to be deployed needed to be able to cope with such ambitious expansion plans.

The project would result in the delivery of a massive system that would need to be provided within a tight timeframe.

The Solution

Cobham Wireless was selected to supply the equipment for the Singapore nationwide upgrade due to the company's expertise in similar high-profile TETRA deployments around the world, and its market leading digital technology.

The fact that Cobham Wireless' equipment has the ability to support both 5MHz and 7MHz bandwidths also helped with the solution selection.

To meet the challenging specifications, Cobham Wireless supplied a network of digital channel selective off-air systems for in-building coverage and selected outdoor areas of Singapore. The off-air systems went into locations such as the Parliament building, the Supreme Court and the busy shopping malls for example. Cobham Wireless' market-leading fibre DAS (Distributed Antenna System) solution was chosen to provide coverage inside the metro.

The limited amount of existing fibre at a number of the country's metro stations presented additional challenges to the deployment. Cobham Wireless' engineering experts enabled a fibre optimisation strategy, providing public safety coverage at all metro stations without the need for the additional costs associated with further fibre



Singapore's busy metro system, part of the nationwide TETRA roll-out



Digital Channel Selective off-air remote unit – the D-CSR 3604

deployment.

The entire public safety network is monitored using Cobham Wireless' remote monitoring system, AEM (Active Element Manager). The system allows the first responder support teams to manage equipment from multiple sites, closely monitoring the network and identifying the need for changes as and when they arise, keeping them in full control at all times.

The Benefit

Cobham Wireless is proud to have one of the most experienced TETRA engineering and design capabilities in the industry and are regularly called upon by network operators, public safety systems integrators, base station manufacturers and public safety authorities to help solve challenging coverage issues like this one.

Sameer Kaul, VP Sales for APAC at Cobham Wireless said: "We are delighted to be involved in this very prestigious and important project and continuing to provide public safety equipment for the Singaporean national public safety network. Cobham Wireless' global leadership position and track record of designing and manufacturing TETRA DAS and coverage equipment for multiple government agencies and first responder services all over the world means we are confident in helping to provide a world class solution for the people of Singapore."

The city-state now benefits from a state-of-the-art public safety communications system that is flexible and future-proof – ideal for meeting the needs of an evolving and rapidly expanding location like Singapore.