



## FIRE & RESCUE NSW, NEW SOUTH WALES, AUSTRALIA



### THE CLIENT

One of the world's largest urban fire and rescue services, Fire & Rescue NSW (FRNSW) is made up of more than 6,800 fire fighters, 7,000 community fire-unit members, and 400 administrative and trades staff. It is one of the key agencies involved in most emergency or disaster events throughout the state of New South Wales (NSW), Australia. FRNSW operates more than 120 radio sites across the state—mostly in remote country areas, but also covering all major urban centers.

### SITUATION

The organization needed to upgrade its existing end-of-life analog network, while also moving to a new spectrum band in order to comply with recent Australian Communications and Media Authority regulations.

FRNSW engaged with Tait Communications to commence its digital migration program following a technology evaluation, beginning with a pilot network that needed to be deployed before the next bushfire season. Tait Project Manager, Mark Cahill, says, "Implementing pilot networks are an excellent way to reduce business risk as agencies are in a better position to properly assess the technology required before approaching any change."

### RESPONSE

Tait worked closely with FRNSW, conducting a high-level design and migration workshop to ensure its requirements and constraints were well understood. As a result, Tait designed and implemented a seven-site pilot network in the Monaro region (Snowy Mountains) of NSW in just 43 working days, integrating a variety of partner products, including MiMOMax linking, for a customized solution.

Tait P25 infrastructure requires minimal linking bandwidth and minimal physical space at each site, which represents value for money. This is particularly important when implementing a network in remote regional areas, as towers and buildings can be very basic; Tait P25 infrastructure allows agencies to focus their investments in the network itself, rather than in bricks and steel.



NSW,  
AUSTRALIA

LOCATION



EMERGENCY  
SERVICES

EXPERTISE

### SOLUTION OVERVIEW

- ▶ Design Services: system, IP and coverage design, system integration and migration planning
- ▶ Deployment Services: project management, commissioning, factory acceptance test, installation
- ▶ TaitNet conventional P25 digital network with TB9100 base stations
- ▶ MiMOMax digital IP linking

### BUSINESS BENEFITS

- ▶ Better service to firefighters with improved coverage and audio quality, fewer faults, and enhanced network management capabilities
- ▶ Saving taxpayers over \$1 million
- ▶ Interoperable mission-critical voice
- ▶ Spectrum directives compliance
- ▶ P25 open-standards technology provides multi-vendor choice and long-term value



Together, Tait and MiMOMax allowed FRNSW to achieve the bandwidth and reliability needed to roll out P25 across the challenging terrain of its territory. This solved the greatest concern over the ability to achieve the linking required without burdening sites with microwave dishes.

"The Tait and MiMOMax solution allowed FRNSW to leverage its internal knowledge of traditional UHF linking without sacrificing most of the benefits that microwave links provide. Without the MiMOMax links, FRNSW is very unlikely to have proceeded to pilot & wide area roll-out," said Richard Cerveny, Radio Network Architect at FRNSW.

#### **OUTCOMES**

Following the pilot phase (stage one), of the seven sites deployed in the Monaro region, Tait, in close collaboration with FRNSW, has since deployed a further six regions (60 sites) for FRNSW and three regions (42 sites) for NSW State Emergency Service (SES). The sites spread across the state, including a Black Spot remediation at one site, and were completed on schedule. Since completion, the new sites have delivered approximately a 20% improvement in coverage compared to analog, with considerably better audio.

"As well as ending up with a new digital network with fewer faults, we now have the ability to monitor the network and report on our service levels, which has resulted in better service to our firefighters," said Paul Barnes, Project Sponsor and Director IT Operations and Communications at FRNSW. "Thanks to the close working relationship with Tait, we were able to complete the project in a manner that realized savings of over \$1 million between FRNSW and SES."

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