



TASMANIAN RAILWAY, AUSTRALIA



THE CLIENT

Tasmanian Rail (TasRail) operates the main-line railways in the southern Australian state of Tasmania. It is a world-class, fully integrated short-haul rail freight business; owning and operating both the fixed track and infrastructure and the rolling stock. TasRail is owned by the Tasmania State Government, employs 260 direct employees and is committed to delivering “transport and logistics solutions that are safe, reliable and sustainable.”

SITUATION

TasRail were implementing a new (Siemens) Train Control System (TCS) that required a data communications network to transport data between the TCS servers and the on-board computers fitted to locomotives and track vehicles, and portable units for track work gangs.

Their existing TaitNet analog mobile radio network could not do this, but the rail company was keen to continue working with Tait Communications and enthusiastic about Tait’s cutting-edge, open standards-based digital technology.

TasRail Chief Executive Officer Damien White explains, “We wanted to work with an experienced partner to deliver another critical communications system we could rely on to help us provide improved services to our customers and increased worker safety.”

RESPONSE

After considering options, TasRail contracted Tait and local partner Tasmanian Electronic & Communications Services (TECS) to design, deliver and install a complete VHF digital mobile radio (DMR) Tier 3 packet data solution, across 10 sites statewide. Data was transferred across the train control system interfaces with Tait mobile radios and radio network infrastructure via linking units supplied by Tait sister company MiMOMax.



TASMANIA,
AUSTRALIA

LOCATION



TRANSPORT

EXPERTISE

SOLUTION OVERVIEW

- ▶ Tait VHF 10-site DMR Tier 3 trunked digital data network
- ▶ Packet data capability
- ▶ Tait EnableMonitor tool
- ▶ MiMOMax UHF and microwave linking

BUSINESS BENEFITS

- ▶ Improved worker safety
- ▶ Greater efficiency and effective operations
- ▶ DMR open-standards technology for interoperability
- ▶ IP-based network provides flexibility for expansion
- ▶ Improved audio clarity and quality as a voice solution



The Tait DMR radio data network supplied to TasRail is highly reliable and comprises four sub-systems:

1. Tait DMR Tier 3 radio system (with dual-node controllers for redundancy).
2. Backhaul system with MiMOMax UHF and SAF microwave links for 1+1 redundancy.
3. Power system with a mix of battery banks, Mains AC, solar and generator power for redundancy.
4. Local network management, monitoring via SNMP Traps such as Tait EnableMonitor.

The Tait DMR solution signals where TasRail trains are at designated points on the track, and enables TasRail to increase the number and frequency of trains and freight through more efficient use of the track. In addition to these efficiency gains, the DMR network, in conjunction with the TCS, has the capability to provide full automation of work orders – for instance, requesting and granting permissions to move to another section of track – further improving worker and asset safety.

TasRail selected a Tait DMR radio data network because it is open standards-based, provides data capability and location information and spectral efficiency. The digital data network operates in parallel with the analog voice network for added redundancy. If TasRail's requirements change, the DMR network is also easily expandable, with the capability to carry both voice and data traffic.

“We chose DMR Tier 3 because the data capability matched our requirements and would allow us to migrate our existing analog voice traffic in the future.

“The digital system is also easily expandable to accomodate on-going growth.”

Damien White

CEO
TasRail