



COMPLETE RAIL SOLUTIONS

Key Railway Challenges

The global economy relies on the efficient transportation of materials and goods. Rail is a critical component of this global logistics chain. There are three key challenges that rail transportation networks need to plan for; **management**, **efficiency**, and **future advancement**. An interoperable, flexible and proven solution is required to achieve success in these areas. 4Tel provides a suite of customisable products and services to ensure safety and advancement across all aspects of a modern rail network.

MANAGEMENT

Network Management Centres

4Tel have the capability and the experience to create a rail Network Management Centre. This suite of products are capable of monitoring and controlling rail infrastructure both locally and remotely with few staff at low cost.

Accurate remote management is made possible through 4Tel's real-time GPS tracking software; 4Trak™, which provides tracking for trains, Hi-Rail vehicles and field workers. 4Trak™ can be accessed via web or through a smartphone application. This allows network controllers remote access to the software and increases productivity.

4Tel management systems include a complete train access management system (4AMS), and an infrastructure monitoring system (4SITE) for remote equipment.

These software solutions have interoperable interfaces to lower initial deployment costs and maximise usability of data.

EFFICIENCY

Automate error-prone manual processes

4Tel has developed a suite of products designed to increase the efficiency of drivers and track workers. These products successfully address the communications errors associated with manual processes including; reducing misunderstandings in transcription of verbal communications, competency management of Protection Workers, assurance of clarity and understanding of arrangements and location accuracy of worksite limits.

Protection is provided to track workers through the 4PTW application which enables accurate location tracking of Track Occupancy Authorities.

4Tel have also developed safety optimisation for heavy haul networks, including a driver advisory system with automatic train protection and SIL4 brake enforcement and the ongoing development of artificial intelligence advisory system which is never distracted and never tired.

ADVANCEMENT

Interoperability and Artificial Intelligence

The Digital Revolution has brought new technologies into the rail sector however many railway infrastructure systems are outdated and continue to rely on manual processes. 4Tel brings together a suite of digital products which are both economically sustainable and future-ready.

Interoperable systems ensure usability across a range of existing hardware and decrease start up costs and 4Tel's digital railway management solution is ready to grow as the network expands.

An Internet-of-Things architecture is used to monitor remote infrastructure, this reduces staff travel time and allow for remote fault diagnosis. The system has proven to be able to manage thousands of devices, exemplifying how 4Tel is deploying new technologies to increase rail productivity.

4Tel is also involved in ongoing research and development of the HORUS Artificial Intelligence (AI) Advanced Driver Advisory System, which utilises Deep Learning to become increasingly "smarter" along the route.

4TEL RAIL SOLUTIONS

4Tel's rail solutions enable railways digitise their operations using technology based on smart train and network infrastructure architectures, with all systems designed to deliver appropriate safety and efficiency benefits. Specifically, 4Tel has developed a suite of train control, planning and communications products that can be customised to create a modern digital-railway management system for a rail Network Management Centre. The product suite is capable of remotely monitoring and controlling rail operations over large geographical areas, using few staff and at low cost.

OUR MISSION

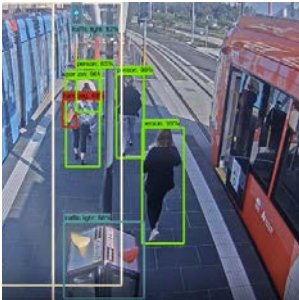
To provide advanced customer solutions to protect people and assets in real-time control environments

4Tel Products

As 4Tel own the Intellectual Property Rights to these products, complete customisation is available to ensure success across a range of projects and networks.



4Trak™
Real-time mobile tracking of assets and staff



HORUS
Artificial Intelligence for Advanced Driver Advisory System



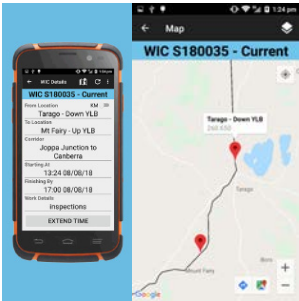
EN4CER:4MTU
Driver Advisory System and automatic train protection



4PIDS™
Multi-modal Passenger Information Display Systems using GPS data



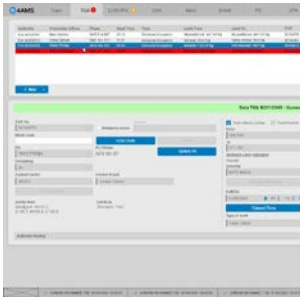
Network Control Centre
Total end-to-end solution fit-out for a large, modern, train network management centre



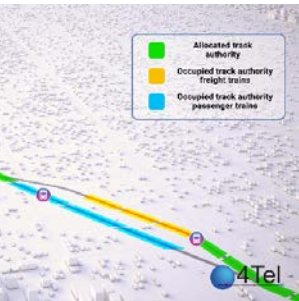
4PTW
Solution for delivering electronic work-on-track authorities



4SITE
Infrastructure Monitoring System, monitors status of remote equipment and alert staff to servicing



4AMS
Rail Access Management System to record and manage daily corridor operations and train information.



4ASW
4ASW is an Advanced Safeworking System, providing a communications-based train control solution

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