

Maintenance Safety Systems and Compliance at TasRail

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ANCS

The Advanced Network Control System (ANCS) is a computerised SafeWorking system that uses GPS tracking and data radio to report the location of locomotives and road rail vehicles situated on the TasRail Network



OBC

*As part of the Advanced Network Control System (ANCS) all locomotives are fitted with an **On Board Computer** known as the OBC.*

When the OBC is powered up it will automatically start in its last location setting. The OBC sends a position report to the Network Control office and if the locomotive is not registered in the Network Control “yard list” a “yard limit” alarm will be raised in the Network Control office.



TasRail Operations

Track Warrant Control Limits

The primary mechanism for control of the TasRail network is Track Warrant Control (TWC). Track users within TWC Limits are allocated Track Warrants by a central Network Controller who authorises occupation and movement on a specified section of track.

Yard

Those parts of the network not designated TWC Controlled Track are designated as Yards.

Track Maintenance

Track maintenance vehicles are permitted to occupy TWC Controlled Track and Yard track for the purpose of track maintenance, track patrol, etc.

ANCS

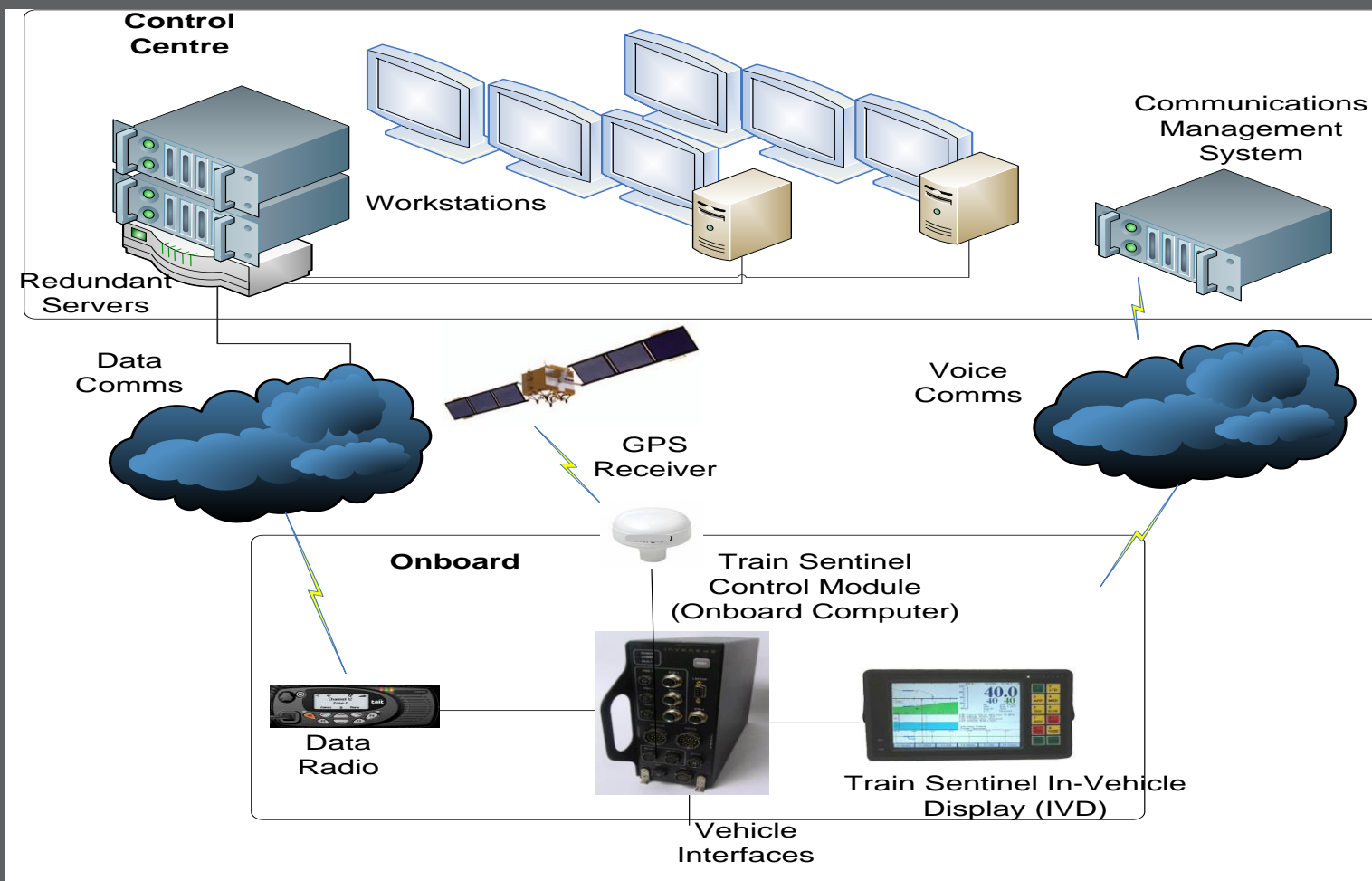
TasRail is set to realise further improvements in its safety and productivity performance, following the successful commissioning of the first stage of an \$11 million project that will see an Advanced Network Train Control System (ANCS) progressively installed across the State's Freight Rail Network.

ANCS is a GPS-based system supported by a digital data radio network that ensures significant additional safeguards for both rail movements and track maintenance activities. It provides much improved visibility of network occupation, combined with GPS-based alarming to warn users of potential occupation and/or speed breaches.

By contrast, the old system was paper-based and required considerable human interaction meaning that it was vulnerable to human error and resulted in a relatively high number of SafeWorking breaches.

TCS Architecture

An overview of the TasRail Train Control System architecture is illustrated.



TCS

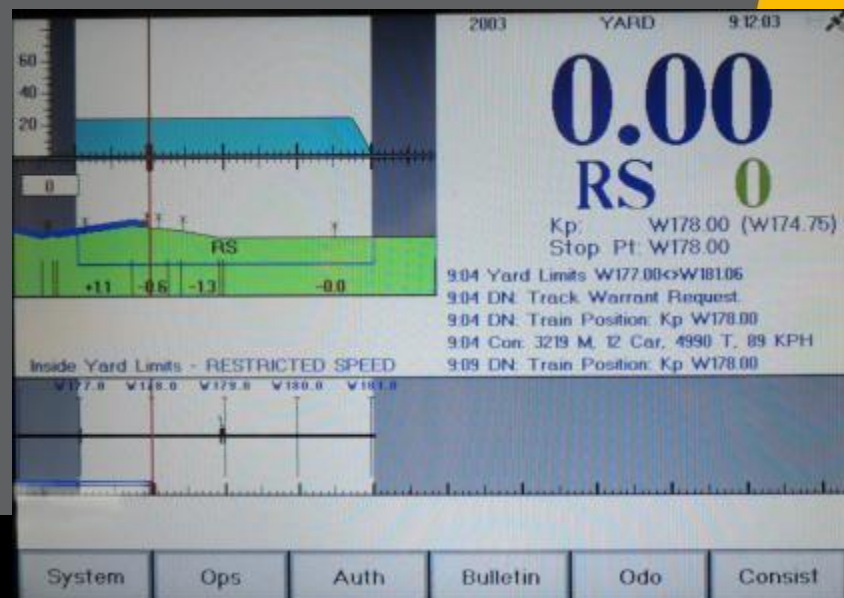
Train Control Centre (TCC)



Communications Management System (CMS)



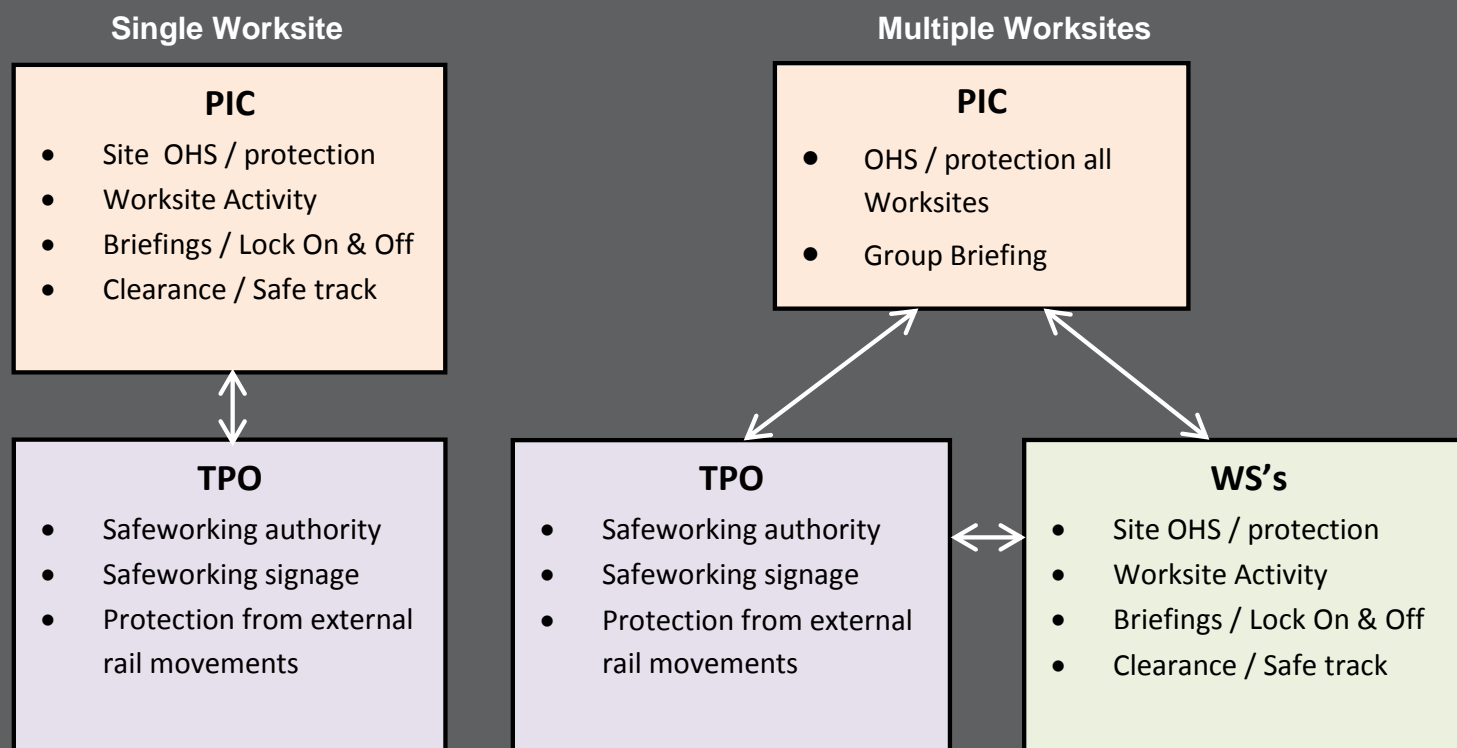
On-board Equipment



ANCS Overview




SafeWorking



Summary

SOME KEY BENEFITS OF THE ADVANCED NETWORK CONTROL SYSTEM (ANCS)

- Fully automated system, reducing risk of Safeworking breaches
- Provides full visibility of all vehicles / isolations on the network in real time
- Improved capacity to manage and monitor track work and train movements
- Increases productive track access time and efficiency of infrastructure maintenance
- GPS positioning increases the accuracy of information
- Provides safer working environment (previous system required an excessively high reliance on procedural compliance)

INF-PRO-018 Worksite Management Accountable Manager: General Manager Asset Management	
	
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Questions

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