

Tarcoola Resignalling

Australian Rail Track Corp.

FAdC® and RSR180

Country
Australia

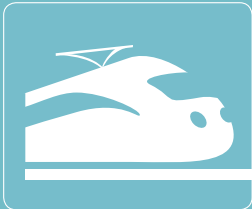
Segment
Main Lines

Application
Train detection

Project start
2013



CASE STUDY | EN



Requirement:

ARTC have undertaken a major project to resignal the line between Spencer Junction and Tarcoola in South Australia. Enabling greater efficiency of train movements through this section of the rail network was one of the main goals. In addition, it was also necessary to offer a solution that would provide reliable clear/occupied status in remote areas.

Solution:

The project was realised with the Frauscher axle counting system FAdC together with Frauscher wheel sensors RSR180. Train detection is distributed along the track in cluster – small axle counter equipment cabinets. Three different technologies came into operation to establish communication in between these clusters. Fibre optic or a SHDSL network were used for short distance communication. In certain locations, where the above methods were not available, the network connection is achieved through a public 3G UMTS mobile network.

Benefit:

The usage of FAdC led to a greater efficiency of train movements and secondly the applied wireless data transmission solution made the laying of cables needless. As a consequence, total life cycle costs decreased.

Tarcoola Resignalling ARTC - Australian Rail Track Corporation FAdC® and RSR180



Resignalled section



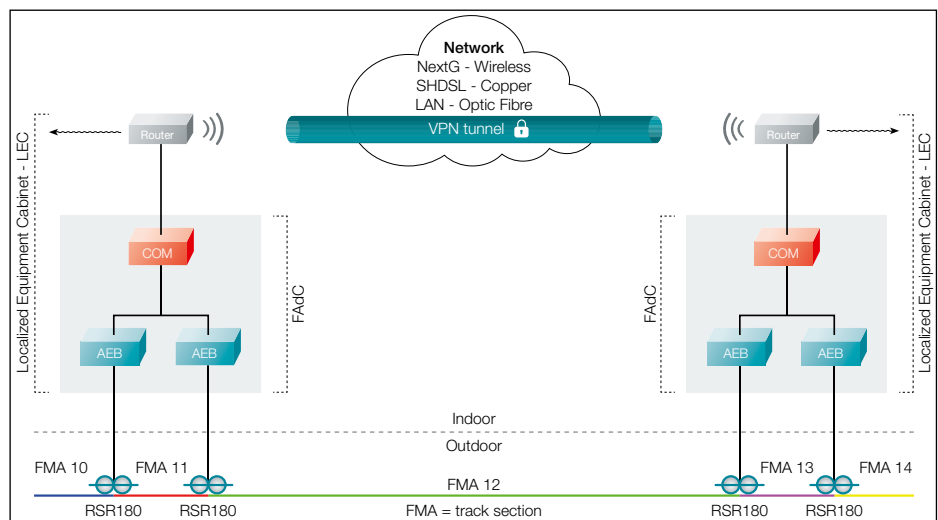
FAdC



Mounted RSR180

Project details:

To achieve all objectives of the project, ARTC decided to use latest axle counting technology. Existing experience with Frauscher axle counting systems led to the decision to go for their products once again. The route resignalled is a single 408 km long line with 13 crossing loops and a traffic volume of about 20 trains per day. It forms the main rail corridor for traffic moving between Port Augusta and Darwin, and Port Augusta and Kalgoorlie. The shortest track section is 300 m, the longest is approximately 27 km. For such long sections, mostly located in remote areas, a cost effective solution using a network connection through a mobile telecommunication network was provided.



For safety reasons the chosen wireless communication solution had to fulfil requirements like high reliability and availability as well as the possibility of secure data transmission. The Next G wireless link from Telstra met the demands of ARTC best and was chosen to be the preferred solution for the project. Next G is a 3G UMTS mobile telephone communication network operated by Telstra in Australia on 850/2100 MHz.

The distributed equipment cabinets are connected through a mobile VPN tunnel. Mobile VPNs are used if reliable and secure connections are needed. They are used for roaming seamlessly across networks and in and out of wireless-coverage areas without dropping the secure VPN session.

Operator	Australian Rail Track Corporation
Scope of Supply	Delivery of components
Scope of Project	Approx. 140 track sections, 180 counting heads
Axle Counting System	FAdC with COM-AdC
Wheel Sensor	RSR180