



Advanced Train Control Systems Integration Services



Project

Advanced Train Control Systems
Integration Services

Client

Transport for New South Wales
(TfNSW)

Location

New South Wales (NSW), Australia

Start Date

May 2014

End Date

2019

Duration

60 Months

Services Provided

Programme management,
signalling, train control &
telecoms, development and
roll out of ERTMS & ETCS
levels 1-3, systems integration

Background

Transport for New South Wales (TfNSW) is responsible for safety, policy, planning, coordination, procurement and funding across all modes of transport in the state including rail. It's vision is to improve the experience of it's customers and deliver value to it's stakeholders.

"Fixing The Trains: Sydney's Rail Future" is TfNSW's plan to modernise, expand and enhance Sydney's rail network through investment in new services and improved infrastructure. It includes major capital projects such as the North West Rail Link, Second Harbour Rail Crossing and the upgrading of the Bankstown and Illawarra lines.

In addition to these projects, the projected growth in demand on the network will require an advanced signalling system to enhance safety, performance and capacity for passenger and freight services. This will be based on the European Train Control System (ETCS) Level 2. Key components will include:

- ▶ Advanced Train Control (ATC) system
- ▶ Automatic Train Protection (ATP)
- ▶ In-cab signalling via Global System for Mobile Communications – Railway (GSM-R)



Scope of Works

Network Rail has in-depth experience of integrating and delivering similar systems, having implemented ETCS Level 2 system on the 218 km Cambrian Lines in Wales. After this pilot project was successfully delivered in 2013, Network Rail has embarked on a nation-wide rollout across the United Kingdom.

Network Rail Consulting, the international consulting arm of Network Rail, was commissioned by TfNSW to independently assess the deliverability, operability and risks associated with the ETCS solution for ATP, based on our UK experience. The resulting report was used to help define the scope of the current ATP programme.

Following on from this work, TfNSW commissioned Network Rail Consulting to provide systems integration services in support of the development

and implementation of the business case, systems integration and delivery program for ATC. The purpose of the project is to share Network Rail's knowledge and experience of successfully planning and delivering ETCS Level 2 in-cab signalling systems. The scope includes:

- ▶ supporting TfNSW to successfully plan and deploy such systems in Sydney's suburban rail network
- ▶ technical support on systems integration and ATC systems assurance within the operational environment
- ▶ operational and business change support
- ▶ knowledge sharing with TfNSW.

Key Project Outputs

Network Rail Consulting is supporting TfNSW through a two phase business appraisal which includes the following key outputs:

- ▶ phase 1 - broadly identify the costs, benefits and risks of ATC system implementation
- ▶ phase 2 - approval for the phased implementation of ATC system. This includes the development of systems integration plans that will support the final business case and define the systems integration tasks that will occur in parallel with the delivery of the ATC program.

Following completion and approval of the business case, Network Rail Consulting will provide ongoing support to the project to move into a delivery phase. This will include preparation of tendering and contract documentation, managing the tender and award process and managing the initial deployment of the ATC system.