

Rail Systems Interoperability

Guideline



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1 Preface

This guideline is produced by RISSB in conjunction with representatives of the rail industry.

The purpose of this guideline is to provide guidance that supports the application of *AS 7450 Rail Systems Interoperability* and *AS 7666 Train Protection and Control (TPC) Interoperability* standards.

As with AS 7450 and AS 7666, the aim of this guideline is therefore also to encourage rail organisations to work collaboratively towards interoperability, providing benefits for the whole of the rail industry.

This guideline applies to:

- (a) new, major upgraded or renewed infrastructure and rolling stock;
- (b) the parts of Australian rail systems that form intrastate and interstate networks that are currently linked or may be linked in the future;
- (c) subsystems located, operated or intended to be operated in Australia; and
- (d) interoperability components.

For all railways, there may be advantages of shared corridors, shared tracks or compatibility of communications systems, rolling stock, infrastructure components, procedures and practices that warrant consideration of interoperability principles.

As this guideline encourages collaboration and uniformity of practice, it can also apply, partially and significantly, to rail systems that fall within one or more of the following categories:

- (a) metros, tramways or other light rail systems, cane railways, monorails or rubber tyred systems;
- (b) networks that are separate from the rest of the rail system, as well as railway undertakings operating solely on these networks;
- (c) infrastructure or vehicles reserved for a strictly local, historical or touristic use; or
- (d) privately owned railway infrastructure and vehicles exclusively used on such infrastructure that exist solely for use by the owner for its freight operations.

2 Scope

Railways have greater or lesser interoperability depending on conforming to parameters including: standards of track gauge, couplings, brakes, signalling, communications, loading gauge, structure gauge, kinematic envelope, operating rules, train control system, traction power, and infrastructure specifications.

The parameters currently most difficult to overcome due to cost considerations are the incompatibility of gauge, and train control systems. As technology and market drivers change so does the dynamics around the economics of harmonisation. Measures to address the incompatibilities are available and are being implemented in accordance with operational needs and available funding.

This interoperability guideline addresses current and future provision for multiple rail system circumstances. The rail system and sub-systems are addressed in conformity with RISSB publications, which cover the technical standards, requirements and practices under the following product categories: