TECHNICAL REPORT

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Railway applications — Railway project planning process — Guidance on railway project planning

Applications ferroviaires — Processus de planification de projets ferroviaires — Recommandations pour la planification de projets ferroviaires

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 269, *Railway applications*.

This first edition of ISO/TR 21245 cancels and replaces ISO/TR 21245-1:2016 and ISO/TR 21245-2:2016, which have been technically revised.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Railway is a superior transport mode in terms of safety and transport capacity and has a very low environmental impact as compared to other modes. Owing to their highly public nature, railway systems can contribute to sustainable economic development in the world with the sound consideration of environment, by means of shortening and leading to predictable travelling time, reducing traffic congestion, developing distribution network, fostering tourism industry, etc.

With these merits of railways, the market of railway has been expanding worldwide, and some countries and regions have experiences of conducting railway projects. In fact, a wide variety of railways are planned across the world, such as urban transit systems for enhancing smoothness of intra-city traffic or improving connectivity with other transportation modes, high speed railways interoperable between different countries/lines or operated on a dedicated line with simple assets, and freight railway systems to transport bulk freight by heavy-haul trains or to reduce environmental impacts like CO_2 emission.

However, it is difficult to gain outcomes as expected due to the complexity of railway systems, as shown in 4.5, especially for organizations without accumulated experiences of railway projects.

Therefore, reviewing and organizing every factor smoothly and efficiently have been challenging due to a lack of standards for appropriate railway project planning.

This document provides guidance for a successful planning process, aimed at helping those engaged in railway project by identifying key points to be considered. It also helps those experienced in railway projects by avoiding:

— possible pitfalls in the planning process such as short-sightedness;

— lack of balanced consideration;

— reworking due to overlooking important factors;

— extra time and cost.

While ISO 21500 is a generic project management standard and does not provide guidance on or discuss any specific aspects in a project field, this document assists planners or decision makers involved in the railway project planning process by incorporating specific characteristics of railway projects.

The goal of this document is to achieve desirable planning of various railway projects which provide benefits to society by underlining key points of the planning process of railway projects to all players, such as planners, consultants, suppliers, governments, clients, capital investors, etc. For players who already have experiences of railway projects, this standard provide benefits where they can strengthen technical validities, plausibility, accountability, unintentional/balanced/harmonized fairness and open/clear/logical/persuasive (transparency) of their proposal, commercial products etc. This document can also be beneficial to players without an experience of railway projects as it provides knowledge to compensate for this lack of experience and thus promote an efficient planning of railway projects. As a result of these, deliverables based on this document will also give indirect benefits to other stakeholders including end users (passengers, consignors).

Railway applications — Railway project planning process — Guidance on railway project planning

1 Scope

This document provides guidance on railway project planning for decision making.

This document explores the key points of railway project planning, based upon the principles of ISO 21500, by incorporating characteristics specific to railway projects.

This document covers:

— the characteristics of railway projects;

— stakeholders and their needs/interests;

— conditions;

— the definition of each process in a railway project;

— key points of planning process;

— correlation and causality among principal factors to be considered.

This document can be used by any type of organization, including public, private or community organizations, and be applied to any type of railway project, irrespective of its complexity, size, duration, etc.

However, this document provides neither detailed requirements nor specific processes for:

— certification;

— deriving a unique solution (specification for particular systems/products);

— decision making itself.

Topics pertaining to general projects are addressed only within the context of railway projects.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 21500:2012, *Guidance on project management*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 21500 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/