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Earth-moving machinery and mobile road construction machinery — Worksite data exchange —

Part 2: Data dictionary

Engins de terrassement et machines mobiles de construction de routes — Échange de données sur le chantier —

Partie 2: Dictionnaire de données

Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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ISO 15143-2 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 3, *Machine characteristics, electrical and electronic systems, operation and maintenance*.

ISO 15143 consists of the following parts, under the general title *Earth-moving machinery and mobile road construction machinery — Worksite data exchange*:

— *Part 1: System architecture*

— *Part 2: Data dictionary*

Introduction

Electronic data exchange on the construction worksite is rapidly becoming a key technology enabling a number of advances in the construction industry. Moving from predominantly manual data collection methods to more automated data collection and communication will improve worksite quality control. Electronic data exchange will further aid in the scheduling of maintenance, the provision of supervisory functions to be conducted remotely from the worksite and the enhancement of the coordination between engineering tasks, construction management and day-to-day operations on the worksite.

The implementation of an electronic data communication system requires an *a-priori* definition and specification of the elements of data to be communicated. Specification of unique data elements for worksite communication involves the use of an application schema to diagrammatically identify the scenario in which each item of data is to be used. After the scenario has been described, data elements are assigned metadata attributes to fully define and describe the individual data element. The list of data elements with attributes are compiled in tabular form in a data dictionary, which forms the subject of this part of ISO 15143.

Generally, the purpose of data dictionaries is recognized to be the following:

a) to improve the ability to share data elements in a particular domain or among different domains;

b) to provide a base for better understanding of the semantic meaning and syntax of data elements;

c) to manage a data resource so as to maintain the correctness and consistency of the resource;

d) to provide a basis for the development of consistent databases and software that use databases.