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Automation systems and integration — Equipment behaviour catalogues for virtual production system —

Part 1: **Overview**

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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.

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).

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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 184, *Automation systems and integration*, Subcommittee SC 5, *Interoperability, integration, and architectures for enterprise systems and automation applications*.

A list of all parts in the ISO 16400 series can be found on the ISO website.

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.

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Introduction

The ISO 16400 series introduces the concept of an equipment behaviour catalogue (EBC), addresses the requirements of EBC and proposes a guideline to generate an executable representing the dynamic behaviour of a nominal or a physical instance of a piece of equipment. Such executable plays a vital role when configuring virtual production systems used for simulation and verification of a future process as well as monitoring of a current process. Therefore, EBCs will constitute an important part of smart manufacturing evolution.

An EBC enables an efficient and standardized way for a provider of a piece of equipment to communicate its dynamic behaviour.

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Part 1: Overview

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1 Scope

This document specifies the concept and structure of the ISO 16400 series. This series specify a methodology for preparing a template and items of an equipment behaviour catalogue (EBC) as a basis to structure a virtual production system.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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 http://www.electropedia.org/

3.1
equipment behaviour catalogue
EBC
group of one EBC template and its EBC items

3.2
EBC template
schema representing a model for each equipment type including behaviour

3.3
behaviour
activity how an element acts and reacts in contexts of realizing its external interaction

[SOURCE: ISO 14258:1998 2.2.2, modified — "in contexts of realizing its external interaction" has been added at the end of the original definition.]

3.4
EBC item
instance of an EBC template

Note 1 to entry: An EBC item represents properties of a piece of equipment including its behaviour.

3.5
EBC repository
set of EBCs

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