First edition
2010-12-15

Industrial automation systems and integration — Industrial manufacturing management data —

Part 44: Information modelling for shop floor data acquisition

Systèmes d'automatisation industrielle et intégration — Données de gestion de fabrication industrielle —

Partie 44: Modélisation de l'information de gestion de fabrication pour l'acquisition des données d'atelier

Reference number
ISO 15531-44:2010(E)

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Published in Switzerland

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Foreword

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75% of the member bodies casting a vote.

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ISO 15531-44 was prepared by Technical Committee ISO/TC 184, *Automation systems and integration*, Subcommittee SC 4, *Industrial data*.

A complete list of parts of ISO 15531 is available from the Internet.

http://www.tc184-sc4.org/titles

Introduction

ISO 15531 is an International Standard for the modelling of data used in the manufacturing management (excepted product and component data as well as catalogue or library data that are modelled using ISO 10303 and ISO 13584). ISO 15531-31 and ISO 15531-32 address the modelling of data used for the management of resources usage, whereas ISO 15531-43 addresses the modelling of manufacturing management data and ISO 15531-42 provides a time model.

The other data that are used for manufacturing management include some data that are captured at the control level of manufacturing, but that are stored at the management level and used at this level to manage manufacturing for quality, maintenance, rescheduling or any other management purpose.

These data are very often captured in various formats that are determined by the device and process constraints. The time stamping and time measure related to this data capture, as well as the batch and resource to which this capture is associated, are also needed to manage manufacturing in an efficient way. Each occurrence of time measure and time stamping is also specific to the resource and its result is further related to a unique time model and reference.

After several translation operations and handling, the raw data collected from level 2 become level 3 data. They are stored in a database that gathers and organizes all the collected data in accordance with level 3 models that are predefined to be reusable. Their subsequent usage in various manufacturing management software implies that the corresponding models are well defined and unique for given information, even if that kind of information can appear several times from several resources.

NOTE The definitions of functional levels used here are those of IEC 62264-1 and are repeated for information in Clause 4 of this part of ISO 15531. The monitoring and control of physical devices belongs to level 2, while the management of manufacturing operations belongs to level 3. This part of ISO 15531 addresses the modelling of level 3 data that are the result of the collection at level 2 of raw data and the result of their translation and handling. The translation and handling are outside the scope of this part of ISO 15531.

It is the aim of this part of ISO 15531 to provide, for those data, models that are shareable by any software used to manage and improve manufacturing.