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# **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*



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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](http://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](http://www.iso.org/iso/foreword.html)

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

This second edition cancels and replaces the first edition (ISO 15531-44:2010), which has been technically revised.

A list of all parts in the ISO 15531 series can be found on the ISO website.

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## Introduction

ISO 15531 is an International Standard for the modelling of data used in manufacturing management (except for 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 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 document. The monitoring and control of physical devices belong to level 2, while the management of manufacturing operations belongs to level 3. This document 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 document.

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