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Enterprise-control system integration –

**Part 3:
Activity models of manufacturing
operations management**

**Intégration du système
de commande d'entreprise –**

**Partie 3:
Modèles d'activités pour la gestion
des opérations de fabrication**



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ENTERPRISE-CONTROL SYSTEM INTEGRATION –

Part 3: Activity models of manufacturing operations management

FOREWORD

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International Standard IEC 62264-1 has been prepared by subcommittee 65A: System aspects, of IEC technical committee 65: Industrial-process measurement and control and ISO SC5, JWG 15, of ISO technical committee 184: Enterprise-control system integration.

It is published as a double logo standard.

The text of this standard is based on the following documents:

CDV	Report on voting
65A/476/CDV	65A/495/RVC

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table. In ISO, the standard has been approved by 10 P-members out of 10 having cast a vote.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The list of all the parts of the IEC 62264 series, under the general title *Enterprise-control system integration*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

This part of IEC 62264 shows activity models and data flows for manufacturing information that enables enterprise-control system integration. The modelled activities operate between Level 4 logistics and planning functions and Level 2 manual and automated process control functions. The models are consistent with the object models given in IEC 62264-1 and the Level 3 (manufacturing operations and control) definitions.

The goal of the standard is to reduce the risk, cost and errors associated with implementing enterprise systems and manufacturing operations systems in such a way that they inter-operate and easily integrate. The standard may also be used to reduce the effort associated with implementing new product offerings.

This standard provides models and terminology for defining the activities of manufacturing operations management. The models and terminology defined in this standard are:

- to emphasize the good practices of manufacturing operations;
- to be used to improve existing manufacturing operations systems;
- to be applied regardless of the degree of automation.

Some potential benefits produced when applying the standard may include

- reducing the time to reach full production levels for new products;
- enabling vendors to supply appropriate tools for manufacturing operations;
- enabling more uniform and consistent identification of manufacturing needs;
- reducing the cost of automating manufacturing processes;
- optimizing supply chains;
- improving efficiency in life-cycle engineering efforts.

It is not the intent of this part of the standard to

- suggest that there is only one way of implementing manufacturing operations;
- force users to abandon their current way of handling manufacturing operations;
- restrict development in the area of manufacturing operations;
- restrict use only to manufacturing industries.

ENTERPRISE-CONTROL SYSTEM INTEGRATION –

Part 3: Activity models of manufacturing operations management

1 Scope

This part of IEC 62264 defines activity models of manufacturing operations management that enable enterprise system to control system integration. The activities defined in this standard are consistent with the object models definitions given in IEC 62264-1. The modelled activities operate between business planning and logistics functions, defined as the Level 4 functions and the process control functions, defined as the Level 2 functions of IEC 62264-1. The scope of this standard is limited to

- a model of the activities associated with manufacturing operations management, Level 3 functions;
- an identification of some of the data exchanged between Level 3 activities.

2 Normative references

The following referenced documents are indispensable for the application 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.

IEC 61512-1:1997, *Batch control – Part 1: Models and terminology*

IEC 62264-1, *Enterprise-control system integration – Part 1: Models and terminology*

IEC 62264-2, *Enterprise-control system integration – Part 2: Object model attributes*

ISO 15704:2000, *Industrial automation systems – Requirements for enterprise-reference architecture and methodologies*

3 Terms, definitions and abbreviations

For the purposes of this document, the following terms and definitions apply.

3.1 Terms and definitions

3.1.1

detailed production schedule

organized and structured collection of production work orders and sequencing involved in the production of one or more products

3.1.2

finite capacity scheduling

scheduling methodology where work is scheduled for production equipment, in such a way that no production equipment capacity requirement exceeds the capacity available to the production equipment

3.1.3

inventory operations management

activities within Level 3 of a manufacturing facility which coordinate, direct, manage and track inventory and material movement within manufacturing operations