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Enterprise-control system integration - Part 3: Activity models of manufacturing operations management

EESTI STANDARDI EESSÕNA

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English Version

Enterprise-control system integration - Part 3: Activity models of manufacturing operations management (IEC 62264-3:2016)

Intégration des systèmes entreprise-contrôle - Partie 3:
Modèles d'activités pour la gestion des opérations de
fabrication
(IEC 62264-3:2016)

Integration von Unternehmensführungs- und Leitsystemen -
Teil 3: Aktivitätsmodelle für das Betriebsmanagement
(IEC 62264-3:2016)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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European foreword

The text of document 65E/456/CDV, future edition 2 of IEC 62264-3, prepared by SC 65E "Devices and integration in enterprise systems" of IEC/TC 65 "Industrial process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62264-3:2017.

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This document supersedes EN 62264-3:2007.

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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61512-1	NOTE	Harmonized as EN 61512-1
IEC 61512-2	NOTE	Harmonized as EN 61512-2
IEC 62264-4	NOTE	Harmonized as EN 62264-4

CONTENTS

FOREWORD.....	7
INTRODUCTION.....	10
1 Scope.....	11
2 Normative references	11
3 Terms, definitions and abbreviations	11
3.1 Terms and definitions.....	11
3.2 Abbreviations	13
4 Structuring concepts.....	14
4.1 Activity models.....	14
4.2 Manufacturing operations management elements.....	14
5 Structuring models	15
5.1 Generic template for categories of manufacturing operations management.....	15
5.1.1 Template for management of operations	15
5.1.2 Use of the generic model.....	15
5.1.3 Generic activity model	15
5.2 Interaction among generic activity models.....	16
5.2.1 Information flows between generic activity models.....	16
5.2.2 Handling resources within the generic activity models	17
5.2.3 Scheduling interactions.....	17
5.3 Hierarchy of planning and scheduling.....	18
5.4 Resource definition for scheduling activities.....	19
5.4.1 Consumed resources and non-consumed resources	19
5.4.2 Resource capacity and availability	20
6 Production operations management.....	20
6.1 General activities in production operations management.....	20
6.2 Production operations management activity model.....	21
6.3 Information exchange in production operations management	22
6.3.1 Equipment and process specific production rules.....	22
6.3.2 Operational commands	22
6.3.3 Operational responses.....	22
6.3.4 Equipment and process specific data.....	22
6.4 Product definition management.....	22
6.4.1 Activity definition of product definition management.....	22
6.4.2 Activity model of product definition management	23
6.4.3 Tasks in product definition management.....	23
6.4.4 Product definition management information	24
6.5 Production resource management.....	24
6.5.1 Activity definition of production resource management.....	24
6.5.2 Activity model of production resource management	25
6.5.3 Tasks in production resource management.....	25
6.5.4 Production resource management information	27
6.6 Detailed production scheduling	28
6.6.1 Activity definition of detailed production scheduling	28
6.6.2 Activity model of detailed production scheduling	28
6.6.3 Tasks in detailed production scheduling	29
6.6.4 Detailed production scheduling information.....	31

6.7	Production dispatching.....	31
6.7.1	Activity definition of production dispatching	31
6.7.2	Activity model of production dispatching	32
6.7.3	Tasks in production dispatching.....	32
6.7.4	Production dispatching information	34
6.8	Production execution management	35
6.8.1	Activity definition of production execution management	35
6.8.2	Activity model of production execution management.....	35
6.8.3	Tasks in production execution management	36
6.9	Production data collection.....	37
6.9.1	Activity definition in production data collection	37
6.9.2	Activity model of production data collection	37
6.9.3	Tasks in production data collection	37
6.10	Production tracking.....	38
6.10.1	Activity definition of production tracking.....	38
6.10.2	Activity model of production tracking.....	38
6.10.3	Tasks in production tracking	38
6.11	Production performance analysis	40
6.11.1	Activity definition of production performance analysis	40
6.11.2	Activity model of production performance analysis.....	40
6.11.3	Tasks in production performance analysis	40
7	Maintenance operations management	44
7.1	General activities in maintenance operations management	44
7.2	Maintenance operations management activity model.....	44
7.3	Information exchanged in maintenance operations management.....	45
7.3.1	Maintenance information.....	45
7.3.2	Maintenance definitions	45
7.3.3	Maintenance capability	46
7.3.4	Maintenance request	46
7.3.5	Maintenance response.....	46
7.3.6	Equipment-specific maintenance procedures	46
7.3.7	Maintenance commands and procedures	46
7.3.8	Maintenance results	47
7.3.9	Equipment state-of-health data.....	47
7.4	Maintenance definition management.....	47
7.5	Maintenance resource management.....	48
7.6	Detailed maintenance scheduling.....	48
7.7	Maintenance dispatching	49
7.8	Maintenance execution management	49
7.9	Maintenance data collection.....	49
7.10	Maintenance tracking.....	49
7.11	Maintenance performance analysis	50
8	Quality operations management	51
8.1	General activities in quality operations management.....	51
8.1.1	Quality operations management activities	51
8.1.2	Quality operations scope	51
8.1.3	Quality test operations management.....	51
8.1.4	Types of testing	52
8.1.5	Testing locations and times	52

8.1.6	Quality systems	53
8.2	Quality test operations activity model	53
8.3	Information exchanged in quality test operations management.....	54
8.3.1	Quality test definitions	54
8.3.2	Quality test capability	54
8.3.3	Quality test request	55
8.3.4	Quality test response.....	55
8.3.5	Quality parameters and procedures	55
8.3.6	Test commands	55
8.3.7	Test responses	55
8.3.8	Quality-specific data	56
8.4	Quality test definition management	56
8.5	Quality test resource management.....	56
8.6	Detailed quality test scheduling.....	57
8.7	Quality test dispatching.....	58
8.8	Quality test execution management	58
8.8.1	General	58
8.8.2	Testing	58
8.9	Quality test data collection	59
8.10	Quality test tracking	59
8.11	Quality test performance analysis	59
8.11.1	General	59
8.11.2	Quality resource traceability analysis.....	60
8.11.3	Quality indicators.....	60
8.12	Supported activities	60
9	Inventory operations management.....	61
9.1	General activities in inventory operations management.....	61
9.2	Inventory operations management activity model	61
9.3	Information exchanged in inventory operations management	62
9.3.1	Inventory definitions	62
9.3.2	Inventory capability.....	63
9.3.3	Inventory requests	63
9.3.4	Inventory response	63
9.3.5	Inventory storage definitions.....	63
9.3.6	Inventory commands.....	63
9.3.7	Inventory replies	63
9.3.8	Inventory-specific data.....	64
9.4	Inventory definition management	64
9.5	Inventory resource management	64
9.6	Detailed inventory scheduling	65
9.7	Inventory dispatching.....	65
9.8	Inventory execution management.....	66
9.9	Inventory data collection	66
9.10	Inventory tracking	67
9.11	Inventory performance analysis	67
10	Completeness, compliance and conformance	68
10.1	Completeness	68
10.2	Compliance.....	68
10.3	Conformance	68

Annex A (informative) Technical and responsibility boundaries	69
A.1 General.....	69
A.2 Scope of responsibility	69
A.3 Actual responsibility	71
A.4 Technical integration.....	71
A.5 Defining solutions	73
Annex B (informative) Scheduling hierarchy.....	74
Annex C (informative) Frequently asked questions.....	76
C.1 Does this standard apply to more than just manufacturing applications?	76
C.2 Why are the models more detailed for production operations management than for the other categories ?	76
C.3 What are some of the main expected uses of this standard ?	76
C.4 How does this standard relate to enterprise-control system integration?	76
C.5 How does this facilitate connection to ERP systems?.....	76
C.6 Why is genealogy not discussed?	76
C.7 Why are only some information flows shown?	77
C.8 What industry does the standard apply to?.....	77
C.9 What is the relation between this standard and MES?.....	77
C.10 How does the QA (quality assurance) element in IEC 62264-1 relate to this standard?	77
Annex D (informative) Advanced planning and scheduling concepts for manufacturing operations management.....	78
D.1 General.....	78
D.2 Fundamental technologies of APS	78
D.3 Decision-making functions of APS	79
Bibliography.....	82
Figure 1 – Activity relationships	14
Figure 2 – Generic activity model of manufacturing operations management	16
Figure 3 – Detailed scheduling interactions.....	18
Figure 4 – Schematic relationship of planning and scheduling.....	19
Figure 5 –Inventory for a consumable resource.....	20
Figure 6 – Activity model of production operations management	21
Figure 7 – Product definition management activity model interfaces.....	23
Figure 8 – Production resource management activity model interfaces	25
Figure 9 – Resource management capacity reporting.....	27
Figure 10 – Detailed production scheduling activity model interfaces	29
Figure 11 – Splitting and merging production schedules to work schedules.....	30
Figure 12 – Work schedule	31
Figure 13 – Production dispatching activity model interfaces	32
Figure 14 – Work dispatching for mixed process facility	34
Figure 15 – Sample job list and job orders	35
Figure 16 – Production execution management activity model interfaces	36
Figure 17 – Production data collection activity model interfaces	37
Figure 18 – Production tracking activity model interfaces	38
Figure 19 – Merging and splitting production tracking information	39

Figure 20 – Production performance analysis activity model interfaces	40
Figure 21 – Activity model of maintenance operations management.....	45
Figure 22 – Activity model of quality test operations management	54
Figure 23 – Activity model of inventory operations management	62
Figure 24 – Inventory data collection activity model	67
Figure A.1 – Different boundaries of responsibility	70
Figure A.2 – Lines of technical integration	72
Figure B.1 – Sample hierarchy of schedules and scheduling activities.	75
Figure D.1 – Levels of decision-making for production	80

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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 62264-2 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 document 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 document 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 documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 62264-1, *Enterprise-control system integration – Part 1: Models and terminology*

IEC 62264-2, *Enterprise-control system integration – Part 2: Object and attributes for enterprise-control system integration*

ISO 22400-1, *Automation systems and integration – Key performance indicators (KPIs) for manufacturing operations management – Part 1: Overview, concepts and terminology*

ISO 22400-2, *Automation systems and integration – Key performance indicators for manufacturing operations management – Part 2: Definitions and descriptions*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

3.1.1

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

3.1.2

inventory operations management

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