

<b>STN</b>	<b>Meranie, riadenie a automatizácia priemyselných procesov</b> <b>Rámec digitálnej výroby</b> <b>Časť 3: Aplikácia digitálnej výroby pre manažérstvo životného cyklu výrobných systémov</b>	<b>STN</b> <b>EN IEC 62832-3</b>  18 0460
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Industrial-process measurement, control and automation - Digital factory framework - Part 3: Application of Digital Factory for life cycle management of production systems

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 03/21

Obsahuje: EN IEC 62832-3:2020, IEC 62832-3:2020

**132404**



EUROPEAN STANDARD

**EN IEC 62832-3**

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2020

ICS 25.040.40

English Version

**Industrial-process measurement, control and automation - Digital  
factory framework - Part 3: Application of Digital Factory for life  
cycle management of production systems  
(IEC 62832-3:2020)**

Mesure, commande et automation dans les processus  
industriels - Cadre de l'usine numérique (Digital Factory) -  
Partie 3: Application de l'usine numérique pour la gestion  
du cycle de vie de systèmes de production  
(IEC 62832-3:2020)

Industrielle Leittechnik - Grundstruktur der digitalen Fabrik -  
Teil 3: Anwendung der Digitalen Fabrik für das  
Lebenszyklusmanagement von Produktionssystemen  
(IEC 62832-3:2020)

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Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

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**EN IEC 62832-3:2020 (E)****European foreword**

The text of document 65/831/FDIS, future edition 1 of IEC 62832-3, prepared by IEC/TC 65 "Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62832-3:2020.

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IEC 61987 (series)	NOTE	Harmonized as EN IEC 61987 (series)
IEC 62424	NOTE	Harmonized as EN 62424
IEC 62264-2	NOTE	Harmonized as EN 62264-2
IEC 62541-100	NOTE	Harmonized as EN 62541-100
IEC 62714 (series)	NOTE	Harmonized as EN IEC 62714 (series)
ISO/IEC Guide 2:2004	NOTE	Harmonized as EN 45020:2006 (not modified)

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62832-1	2020	Industrial-process measurement, control and automation - Digital factory framework - Part 1: General principles	EN IEC 62832-1	2020
IEC 62832-2	2020	Industrial-process measurement, control and automation - Digital factory framework - Part 2: Model elements	EN IEC 62832-2	2020
ISO/IEC 6523	series	Information technology -- Structure for the identification of organizations and organization parts -- Part 1: Identification of organization identification schemes	-	-



IEC 62832-3

Edition 1.0 2020-10

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



**Industrial-process measurement, control and automation – Digital Factory  
framework –  
Part 3: Application of Digital Factory for life cycle management of production  
systems**

**Mesure, commande et automation dans les processus industriels – Cadre de  
l'usine numérique (Digital Factory) –  
Partie 3: Application de l'usine numérique pour la gestion du cycle de vie de  
systèmes de production**

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IEC 62832-3

Edition 1.0 2020-10

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# NORME INTERNATIONALE



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Part 3: Application of Digital Factory for life cycle management of production  
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**Mesure, commande et automation dans les processus industriels – Cadre de  
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Partie 3: Application de l'usine numérique pour la gestion du cycle de vie de  
systèmes de production**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

ICS 25.040.40

ISBN 978-2-8322-8966-2

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**INDUSTRIAL-PROCESS MEASUREMENT, CONTROL  
AND AUTOMATION – DIGITAL FACTORY FRAMEWORK –****Part 3: Application of Digital Factory for  
life cycle management of production systems**

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FDIS	Report on voting
65/831/FDIS	65/842/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

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

A list of all parts of the IEC 62832 series, published under the general title, *Industrial-process measurement, control and automation – Digital Factory framework*, can be found on the IEC website.

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

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

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## INTRODUCTION

IEC 62832 provides a framework used for establishing and maintaining the digital representations of production systems, including the representation of the elements of the production systems and of the relationships between these elements. The framework is intended also to support the exchange of information about these elements.

The framework aims at reducing the interoperability barriers for exchange of information for the various activities related to production systems. The main advantages of this method are that all information related to a production system is described in a standardized manner, and it can be used and modified through its entire life cycle. The method defined in IEC 62832 is kept as generic as possible in order to enable its use in several industrial sectors.

Manufacturers and suppliers provide information about available PS asset types by using electronic catalogues, which are based on commonly agreed data definitions (for instance IEC CDD, eCI@ss<sup>1</sup> and eOTD<sup>2</sup>). Such data definitions can be provided by standard organizations (like IEC CDD), by consortia (like eCI@ss e.V.) or by companies (like eOTD dictionaries).

The DF Framework provides a standardized approach, by defining the concepts of Libraries (i.e. SupplierLibraries and DFlibraries) and by defining basic rules for such Libraries.

The intention of this document is to provide a common base for implementation of the DF framework using different technologies (for example different engineering data formats). Proposals for such implementations are provided in Annex A.

IEC 62832-1 describes the general principles of the DF reference model together with its most important model elements. IEC 62832-2 specifies detailed requirements for model elements of the DF reference model. This part of IEC 62832 specifies the rules for using the DF framework.

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# INDUSTRIAL-PROCESS MEASUREMENT, CONTROL AND AUTOMATION – DIGITAL FACTORY FRAMEWORK –

## Part 3: Application of Digital Factory for life cycle management of production systems

### 1 Scope

This part of IEC 62832 specifies rules of the Digital Factory framework for managing information of a production system throughout its life cycle. It also defines how information will be added, deleted or changed in the DigitalFactory by the various activities during the life cycle of the production system.

These rules include:

- rules to represent a production system with a DigitalFactory;
- rules to represent a PS asset or a role with a DFasset;
- rules to represent a relationship between PS assets with a DFassetLink;
- rules to represent a relationship between roles with a DFassetLink;
- rules to represent the hierarchy of PS assets in a production system;
- rules to check the compatibility between associated PS assets.

NOTE 1 "PS" and "DF" are used in IEC 62832 (all parts) as qualifiers, they are part of the concept names. See IEC 62832-1:2020, Clause 3.

NOTE 2 Common rules are the base for the exchange of data between and within enterprises, between engineering tools, and between departments.

### 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 62832-1:2020, *Industrial-process measurement, control and automation – Digital Factory framework – Part 1: General principles*

IEC 62832-2:2020, *Industrial-process measurement, control and automation – Digital Factory framework – Part 2: Model elements*

ISO/IEC 6523 (all parts), *Information technology – Structure for the identification of organizations and organization parts*

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