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Irish Standard
I.S. EN IEC 62832-3:2020

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

I.S. EN IEC 62832-3:2020

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National Foreword

I.S. EN IEC 62832-3:2020 is the adopted Irish version of the European Document EN IEC 62832-3:2020, 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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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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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.

The following dates are fixed:

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| | | |
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| 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) |
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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: 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 | | - |

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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
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**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
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INTERNATIONAL STANDARD

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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**

FOREWORD

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International Standard IEC 62832-3 has been prepared by IEC technical committee 65: Industrial-process measurement, control and automation.

The text of this International Standard is based on the following documents:

| | |
|-------------|------------------|
| 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@ss¹ and eOTD²). 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*

3 Terms, definitions and conventions

3.1 Terms and definitions

For the purposes of this document, the terms and definitions as well as the abbreviated terms given in IEC 62832-1, IEC 62832-2 and the following apply.

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