SLOVENSKI STANDARD
oSIST prEN IEC 62832-3:2020

01-februar-2020

Meritve, krmiljenje in avtomatizacija v industrijskih procesih - Okvir digitalne tovarne - 3. del: Uporaba digitalne tovarne za upravljanje življenjskega cikla proizvodnih sistemov

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

Ta slovenski standard je istoveten z: **prEN IEC 62832-3:2019**

ICS:

13.020.60	Življenjski ciklusi izdelkov	Product life-cycles
25.040.40	Merjenje in krmiljenje industrijskih postopkov	Industrial process measurement and control

oSIST prEN IEC 62832-3:2020 **en,fr,de**

65/775/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER: **IEC 62832-3 ED1**	
DATE OF CIRCULATION: **2019-11-29**	CLOSING DATE FOR VOTING: **2020-02-21**
SUPERSEDES DOCUMENTS: **65/749/CD,65/758/CC**	

IEC TC 65 : INDUSTRIAL-PROCESS MEASUREMENT, CONTROL AND AUTOMATION	
SECRETARIAT: France	SECRETARY: Mr Rudy BELLIARDI
OF INTEREST TO THE FOLLOWING COMMITTEES: SC 3D,SC 65E,SyC SM	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.

FUNCTIONS CONCERNED:

☐ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☐ SAFETY

☒ SUBMITTED FOR CENELEC PARALLEL VOTING	☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING
Attention IEC-CENELEC parallel voting The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting. The CENELEC members are invited to vote through the CENELEC online voting system.	

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

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

PROPOSED STABILITY DATE: 2024

NOTE FROM TC/SC OFFICERS:

CONTENTS

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

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.

3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.

4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.

5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.

6) All users should ensure that they have the latest edition of this publication.

7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.

8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.

9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

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
XX/XX/FDIS	XX/XX/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 publication will remain unchanged until the stability 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.

The National Committees are requested to note that for this publication the stability date is 2024

THIS TEXT IS INCLUDED FOR THE INFORMATION OF THE NATIONAL COMMITTEES AND WILL BE DELETED AT THE PUBLICATION STAGE.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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, eCl@ss[1] and eOTD[2]). Such data definitions can be provided by standard organizations (like IEC CDD), by consortia (like eCl@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.

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.

[1] eCl@ss® is the registered trademark of a product supplied by the eCl@ss e.V. association. This information is given for the convenience of users of this document and does not constitute an endorsement by IEC of the product named.

[2] eOTD® is the registered trademark of a product supplied by ECCMA (Electronic Commerce Code Management Association). This information is given for the convenience of users of this document and does not constitute an endorsement by IEC of the product named.

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 the IEC 62832 series as qualifiers, they are part of the concept names. See IEC 62832-1:—, 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 62832-2:— [3], *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.

[3] Under preparation

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at http://www.iso.org/obp
- IEC Electropedia: available at http://www.electropedia.org/

3.2
PS asset type
set of PS assets with common characteristics and features

3.3 Conventions

While IEC 62832-1 is using general names for describing the concepts, IEC 62832-2 and IEC 62832-3 define more formal requirements. In order to clearly identify the names of the model elements the documents IEC 62832-2 and IEC 62832-3 use ‘PascalCase’ for names.

A help for matching the names is provided in IEC 62832-2:—, Table B.1.

4 General rules

4.1 Information about PS asset types

The description of a PS asset type is provided in a Library by means of a DFassetClass, which is derived from a DFassetClassDefinition in a ConceptDictionary. This relationship is documented by the “DFassetClassDefinition” reference in the header of the DFassetClass. The product characteristics are described by DataElements and CDELs, which commonly also are based on definitions from the same ConceptDictionary as the DFassetClassDefinition. If the used dictionary does not support description of all relevant product characteristics, additional DataElements and CDELs may be provided based on definitions from a different ConceptDictionary (e.g. from a different consortium or from the vendor) (see for example Figure 1).