



SLOVENSKI STANDARD

SIST EN 61069-8:2017

01-marec-2017

Nadomešča:
SIST EN 61069-8:2001

Meritve, krmiljenje in avtomatizacija v industrijskih procesih - Ocenjevanje lastnosti sistema zaradi njegovega vrednotenja - 8. del: Vrednotenje drugih lastnosti sistema (IEC 61069-8:2016)

Industrial-process measurement, control and automation - Evaluation of system properties for the purpose of system assessment - Part 8: Assessment of other system properties (IEC 61069-8:2016)

ITEH STANDARD PREVIEW
(standards.iteh.ai)

Leittechnik für industrielle Prozesse - Ermittlung der Systemeigenschaften zum Zweck der Eignungsbeurteilung eines Systems - Teil 8: Auswertung anderer Systemeigenschaften (IEC 61069-8:2016)

<https://standards.iteh.ai/catalog/standards/sist/364c9e7e-7358-4292-82c0-3e4d395b261a/sist-en-61069-8-2017>

Mesure, commande et automation dans les processus industriels - Appréciation des propriétés d'un système en vue de son évaluation - Partie 8: Evaluation des autres propriétés d'un système (IEC 61069-8:2016)

Ta slovenski standard je istoveten z: EN 61069-8:2016

ICS:

25.040.40	Merjenje in krmiljenje industrijskih postopkov	Industrial process measurement and control
-----------	--	--

SIST EN 61069-8:2017

en,fr,de

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 61069-8:2017

<https://standards.iteh.ai/catalog/standards/sist/364c9e7e-7358-4292-82c0-3e4d395b261a/sist-en-61069-8-2017>

EUROPEAN STANDARD

EN 61069-8

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2016

ICS 25.040.40

Supersedes EN 61069-8:1999

English Version

Industrial-process measurement, control and automation -
Evaluation of system properties for the purpose of system
assessment - Part 8: Assessment of other system properties
(IEC 61069-8:2016)

Mesure, commande et automation dans les processus
industriels - Appréciation des propriétés d'un système en vue
de son évaluation - Partie 8: Evaluation des autres
propriétés d'un système
(IEC 61069-8:2016)

Leittechnik für industrielle Prozesse - Ermittlung der
Systemeigenschaften zum Zweck der Eignungsbeurteilung
eines Systems - Teil 8: Auswertung anderer
Systemeigenschaften
(IEC 61069-8:2016)

This European Standard was approved by CENELEC on 2016-07-20. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

EN 61069-8:2016**European foreword**

The text of document 65A/796/FDIS, future edition 2 of IEC 61069-8, prepared by SC 65A "System aspects", of IEC/TC 65 "Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61069-8:2016.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2017-04-20
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-07-20

This document supersedes EN 61069-8:1999.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Endorsement notice

SIST EN 61069-8:2017

[https://standards.iteh.ai/catalog/standards/sist/364c9e7e-7358-4292-82c0-](https://standards.iteh.ai/catalog/standards/sist/364c9e7e-7358-4292-82c0-3e4d395b261a/sist-en-61069-8-2017)

[3e4d395b261a/sist-en-61069-8-2017](https://standards.iteh.ai/catalog/standards/sist/364c9e7e-7358-4292-82c0-3e4d395b261a/sist-en-61069-8-2017)

The text of the International Standard IEC 61069-8:2016 was approved by CENELEC as a European Standard without any modification.

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

IEC 60300-2	NOTE	Harmonized as EN 60300-2.
IEC 61069-3:2016	NOTE	Harmonized as EN 61069-3:201X ¹⁾ (not modified).
IEC 61069-4:2016	NOTE	Harmonized as EN 61069-4:201X ¹⁾ (not modified).
IEC 61069-5:2016	NOTE	Harmonized as EN 61069-5:2016 (not modified).
IEC 61069-6:2016	NOTE	Harmonized as EN 61069-6:2016 (not modified).
IEC 61069-7:2016	NOTE	Harmonized as EN 61069-7:2016 (not modified).

1) To be published.

IEC 61082-1	NOTE	Harmonized as EN 61082-1.
IEC 61082-2 ²⁾	NOTE	Harmonized as EN 61082-2.
IEC 61082-3 ²⁾	NOTE	Harmonized as EN 61082-3.
IEC 61082-4 ²⁾	NOTE	Harmonized as EN 61082-4.
IEC 61187	NOTE	Harmonized as EN 61187.
IEC 61346-1 ³⁾	NOTE	Harmonized as EN 61346-1.
IEC 61346-2 ³⁾	NOTE	Harmonized as EN 61346-2.
IEC 61355	NOTE	Harmonized in EN 61355 series.
IEC 61508	NOTE	Harmonized in EN 61508 series.
IEC/TS 62603-1	NOTE	Harmonized as CLC/TS 62603-1.
ISO 19011	NOTE	Harmonized as EN ISO 19011.
ISO 9000	NOTE	Harmonized as EN ISO 9000.
ISO 9001	NOTE	Harmonized as EN ISO 9001.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 61069-8:2017](https://standards.iteh.ai/catalog/standards/sist/364c9e7e-7358-4292-82c0-3e4d395b261a/sist-en-61069-8-2017)

<https://standards.iteh.ai/catalog/standards/sist/364c9e7e-7358-4292-82c0-3e4d395b261a/sist-en-61069-8-2017>

-
- 2) Superseded by IEC 61082-1:2006, *Preparation of documents used in electrotechnology - Part 1: Rules*, harmonized as EN 61082-1:2006.
- 3) Superseded by IEC 81346-1:2009, *Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations – Part 1: Basic rules*, harmonized as EN 81346-1:2009.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When 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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61069-1	2016	Industrial-process measurement, control and automation - Evaluation of system properties for the purpose of system assessment - Part 1: Terminology and basic concepts	EN 61069-1	201X ⁴⁾
IEC 61069-2	2016	Industrial-process measurement, control and automation - Evaluation of system properties for the purpose of system assessment - Part 2: Assessment methodology	EN 61069-2	201X ⁴⁾

4) To be published.



IEC 61069-8

Edition 2.0 2016-06

INTERNATIONAL STANDARD

NORME INTERNATIONALE



Industrial-process measurement, control and automation – Evaluation of system properties for the purpose of system assessment – Part 8: Assessment of other system properties

Mesure, commande et automation dans les processus industriels – Appréciation des propriétés d'un système en vue de son évaluation – Partie 8: Évaluation des autres propriétés d'un système

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 25.040.40

ISBN 978-2-8322-3451-8

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 Scope.....	9
2 Normative references.....	9
3 Terms, definitions, abbreviated terms, acronyms, conventions and symbols.....	9
3.1 Terms and definitions.....	9
3.2 Abbreviated terms, acronyms, conventions and symbols.....	9
4 Basis of assessment specific to other system properties.....	9
4.1 Other system properties.....	9
4.1.1 General.....	9
4.1.2 Quality assurance.....	10
4.1.3 System support.....	11
4.1.4 Compatibility.....	13
4.1.5 Physical properties.....	13
4.2 Factors influencing OSP.....	13
5 Assessment method.....	14
5.1 General.....	14
5.2 Defining the objective of the assessment.....	14
5.3 Design and layout of the assessment.....	14
5.4 Planning the assessment program.....	14
5.5 Execution of the assessment.....	14
5.6 Reporting of the assessment.....	14
6 Evaluation techniques.....	15
6.1 General.....	15
6.2 Analytical evaluation techniques.....	15
6.2.1 Evaluation of quality assurance.....	15
6.2.2 Evaluation of systems support.....	15
6.2.3 Evaluation of compatibility.....	15
6.2.4 Evaluation of physical properties.....	16
6.3 Empirical evaluation techniques.....	16
6.3.1 Evaluation of systems support.....	16
6.3.2 Evaluation of compatibility.....	16
6.4 Additional topics for evaluation techniques.....	16
Annex A (informative) Checklist and/or example of SRD for system functionality.....	17
A.1 SRD information.....	17
A.2 System support.....	17
A.3 Quality assurance.....	17
Annex B (informative) Check list and/or example of SSD for system functionality.....	18
B.1 SSD information.....	18
B.2 Check points for other aspects.....	18
Annex C (informative) Assessment of non-task-related system properties, sample system specification information from IEC TS 62603-1.....	19
C.1 Overview.....	19
C.2 Non-task-related system properties.....	19
C.2.1 Technical and commercial support.....	19

C.2.2	Training of the personnel.....	19
C.2.3	Technical support for operation	19
C.2.4	Warranty.....	20
C.2.5	References of the vendor	20
C.3	System support.....	21
C.3.1	Automatic documentation	21
C.3.2	On-line documentation	21
Annex D (informative)	Subjects to be considered on type of training required for the mission.....	22
D.1	General.....	22
D.2	Enabling factors	22
D.2.1	General	22
D.2.2	Knowledge.....	22
D.2.3	Attitude	23
D.3	Skills.....	23
D.3.1	General	23
D.3.2	Technical skills	23
D.3.3	Skill to make decisions.....	24
D.3.4	Skill to communicate effectively.....	24
D.4	Overview of training items	24
Annex E (informative)	Evaluation indicators to assess quality assurance.....	27
E.1	Company	27
E.2	Technologies	28
E.3	Processes.....	29
E.4	Products.....	30
E.5	Deliveries.....	31
Annex F (informative)	Evaluation matrix to assess compatibility.....	33
Bibliography	34
Figure 1	– General layout of IEC 61069.....	8
Figure 2	– Other system properties	10
Table D.1	– Training items	24
Table E.1	– Company profile.....	27
Table E.2	– Management	27
Table E.3	– Quality management system (QM)	27
Table E.4	– Co-operation and service (overall assessment)	28
Table E.5	– Product strategy.....	28
Table E.6	– Production	28
Table E.7	– Development.....	28
Table E.8	– Co-operation	29
Table E.9	– Process documentation	29
Table E.10	– Process control	29
Table E.11	– Environmental compatibility	29
Table E.12	– Co-operation	30
Table E.13	– Delivery quality.....	30

Table E.14 – Reliability	30
Table E.15 – Processing of complaints	30
Table E.16 – Co-operation	31
Table E.17 – Delivery logistics	31
Table E.18 – Transport systems	31
Table E.19 – Cost management	32
Table E.20 – Co-operation	32
Table F.1 – Evaluation matrix to assess compatibility	33

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 61069-8:2017](https://standards.iteh.ai/catalog/standards/sist/364c9e7e-7358-4292-82c0-3e4d395b261a/sist-en-61069-8-2017)

<https://standards.iteh.ai/catalog/standards/sist/364c9e7e-7358-4292-82c0-3e4d395b261a/sist-en-61069-8-2017>

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**INDUSTRIAL-PROCESS MEASUREMENT, CONTROL AND AUTOMATION –
EVALUATION OF SYSTEM PROPERTIES FOR
THE PURPOSE OF SYSTEM ASSESSMENT –**

Part 8: Assessment of other system properties

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 61069-8 has been prepared by subcommittee 65A: System aspects, of IEC technical committee 65: Industrial-process measurement, control and automation.

This second edition cancels and replaces the first edition published in 1999. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) reorganization of the material of IEC 61069-8:1999 to make the overall set of standards more organized and consistent;
- b) IEC TS 62603-1 has been incorporated into this edition.

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

FDIS	Report on voting
65A/796/FDIS	65A/806/RVD

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

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

A list of all parts in the IEC 61069 series, published under the general title *Industrial-process measurement, control and automation – Evaluation of system properties for the purpose of system assessment*, 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.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

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 61069 deals with the method which should be used to assess system properties of a basic control system (BCS). IEC 61069 consists of the following parts.

- Part 1: Terminology and basic concepts
- Part 2: Assessment methodology
- Part 3: Assessment of system functionality
- Part 4: Assessment of system performance
- Part 5: Assessment of system dependability
- Part 6: Assessment of system operability
- Part 7: Assessment of system safety
- Part 8: Assessment of other system properties

Assessment of a system is the judgement, based on evidence, of the suitability of the system for a specific mission or class of missions.

To obtain total evidence would require complete evaluation (for example under all influencing factors) of all system properties relevant to the specific mission or class of missions.

Since this is rarely practical, the rationale on which an assessment of a system should be based is:

- the identification of the importance of each of the relevant system properties,
- the planning for evaluation of the relevant system properties with a cost-effective dedication of effort to the various system properties.

In conducting an assessment of a system, it is crucial to bear in mind the need to gain a maximum increase in confidence in the suitability of a system within practical cost and time constraints.

An assessment can only be carried out if a mission has been stated (or given), or if any mission can be hypothesized. In the absence of a mission, no assessment can be made; however, evaluations can still be specified and carried out for use in assessments performed by others. In such cases, IEC 61069 can be used as a guide for planning an evaluation and it provides methods for performing evaluations, since evaluations are an integral part of assessment.

In preparing the assessment, it can be discovered that the definition of the system is too narrow. For example, a facility with two or more revisions of the control systems sharing resources, for example a network, should consider issues of co-existence and inter-operability. In this case, the system to be investigated should not be limited to the “new” BCS; it should include both. That is, it should change the boundaries of the system to include enough of the other system to address these concerns.

The series structure and the relationship among the parts of IEC 61069 are shown in Figure 1.