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Irish Standard  
I.S. EN IEC 62443-3-2:2020

# Security for industrial automation and control systems - Part 3-2: Security risk assessment for system design

**I.S. EN IEC 62443-3-2:2020**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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## National Foreword

I.S. EN IEC 62443-3-2:2020 is the adopted Irish version of the European Document EN IEC 62443-3-2:2020, Security for industrial automation and control systems - Part 3-2: Security risk assessment for system design

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EUROPEAN STANDARD

**EN IEC 62443-3-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2020

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ICS 25.040.40; 35.030

English Version

**Security for industrial automation and control systems - Part 3-2:  
Security risk assessment for system design  
(IEC 62443-3-2:2020)**

Sécurité des systèmes d'automatisation et de commande  
industriels - Partie 3-2: Évaluation des risques de sécurité  
pour la conception des systèmes  
(IEC 62443-3-2:2020)

IT-Sicherheit für industrielle Automatisierungssysteme - Teil  
3-2: Sicherheitsrisikobeurteilung und Systemgestaltung  
(IEC 62443-3-2:2020)

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

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

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**EN IEC 62443-3-2:2020 (E)****European foreword**

The text of document 65/799/FDIS, future edition 1 of IEC 62443-3-2, 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 62443-3-2:2020.

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) 2021-04-29
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-07-29

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

IEC 62443-2-1	NOTE	Harmonized as EN IEC 62443-2-1 <sup>1</sup>
IEC 62443-2-4:2015	NOTE	Harmonized as EN IEC 62443-2-4:2019 (not modified)
IEC 62443-4-1:2018	NOTE	Harmonized as EN IEC 62443-4-1:2018 (not modified)
IEC 62443-4-2:2019	NOTE	Harmonized as EN IEC 62443-4-2:2019 (not modified)
IEC 61511-2:2016	NOTE	Harmonized as EN 61511-2:2017 (not modified)
IEC 62264-1:2013	NOTE	Harmonized as EN 62264-1:2013 (not modified)

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<sup>1</sup> To be published. Stage at the time of publication: prEN IEC 62443-2-1:2019.

## Annex ZA (normative)

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

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.

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 62443-3-3	2013	Industrial communication networks - Network and system security - Part 3-3: System security requirements and security levels	EN IEC 62443-3-3	2019

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**IEC 62443-3-2**

Edition 1.0 2020-06

# **INTERNATIONAL STANDARD**



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## **Security for industrial automation and control systems – Part 3-2: Security risk assessment for system design**





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67 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.



**IEC 62443-3-2**

Edition 1.0 2020-06

# INTERNATIONAL STANDARD



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## Security for industrial automation and control systems – Part 3-2: Security risk assessment for system design

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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ICS 25.040.40; 35.030

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**SECURITY FOR INDUSTRIAL AUTOMATION AND CONTROL SYSTEMS –****Part 3-2: Security risk assessment for system design**

## FOREWORD

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International Standard IEC 62443-3-2 has been prepared by IEC technical committee 65: Industrial-process measurement, control and automation.

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

FDIS	Report on voting
65/799/FDIS	65/804/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 in the IEC 62443 series, published under the general title *Security for industrial automation and control systems*, 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

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

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## INTRODUCTION

There is no simple recipe for how to secure an industrial automation and control system (IACS) and there is good reason for this. It is because security is a matter of risk management. Every IACS presents a different risk to the organization depending upon the threats it is exposed to, the likelihood of those threats arising, the inherent vulnerabilities in the system and the consequences if the system were to be compromised. Furthermore, every organization that owns and operates an IACS has a different tolerance for risk.

This document strives to define a set of engineering measures that will guide an organization through the process of assessing the risk of a particular IACS and identifying and applying security countermeasures to reduce that risk to tolerable levels.

A key concept in this document is the application of IACS security zones and conduits. Zones and conduits are introduced in IEC TS 62443-1-1.

This document has been developed in cooperation with the ISA99 liaison. ISA99 is the committee on Industrial Automation and Control Systems Security of the International Society of Automation (ISA).

The audience for this document is intended to include the asset owner, system integrator, product supplier, service provider, and compliance authority.

This document provides a basis for specifying security countermeasures by aligning the target security levels (SL-Ts) identified in this document with the required capability security levels (SL-Cs) specified in IEC 62443-3-3.



# SECURITY FOR INDUSTRIAL AUTOMATION AND CONTROL SYSTEMS –

## Part 3-2: Security risk assessment for system design

### 1 Scope

This part of IEC 62443 establishes requirements for:

- defining a system under consideration (SUC) for an industrial automation and control system (IACS);
- partitioning the SUC into zones and conduits;
- assessing risk for each zone and conduit;
- establishing the target security level (SL-T) for each zone and conduit; and
- documenting the security requirements.

### 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 62443-3-3:2013, *Industrial communication networks – Network and system security – Part 3-3: System security requirements and security levels*

### 3 Terms, definitions, abbreviated terms, acronyms and conventions

#### 3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

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

##### 3.1.1

##### **channel**

specific logical or physical communication link between assets

Note 1 to entry: A channel facilitates the establishment of a connection.

##### 3.1.2

##### **compliance authority**

entity with jurisdiction to determine the adequacy of a security assessment or the effectiveness of implementation as specified in a governing document

Note 1 to entry: Examples of compliance authorities include government agencies, regulators, external and internal auditors.

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