



# SLOVENSKI STANDARD

## SIST EN 62657-2:2015

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### Industrijska komunikacijska omrežja - Brežično komunikacijsko omrežje - 2. del: Upravljanje soobstoja (IEC 62657-2:2013, spremenjen)

Industrial communication networks - Wireless communication network - Part 2:  
Coexistence management (IEC 62657-2:2013, modified)

Industrielle Kommunikationsnetze - Funk-Kommunikationsnetze - Teil 2: Koexistenz-  
Management (IEC 62657-2:2013, modifiziert)

Réseaux de communication industriels - Réseaux de communication sans fil - Partie 2:  
Gestion de la coexistence (IEC 62657-2:2013, modifiée)

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#### **ICS:**

25.040.40	Merjenje in krmiljenje industrijskih postopkov	Industrial process measurement and control
35.110	Omreževanje	Networking

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EUROPEAN STANDARD

**EN 62657-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2015

ICS 25.040.40; 33.040; 35.110

English Version

**Industrial communication networks - Wireless communication networks - Part 2: Coexistence management  
(IEC 62657-2:2013 , modified)**

Réseaux de communication industriels - Réseaux de communication sans fil - Partie 2: Gestion de coexistence  
(IEC 62657-2:2013 , modifiée)

Industrielle Kommunikationsnetze - Funk-Kommunikationsnetze - Teil 2: Koexistenz-Management  
(IEC 62657-2:2013 , modifiziert)

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Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

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

**EN 62657-2:2015****Foreword**

This document (EN 62657-2:2015) consists of the text of IEC 62657-2:2013 prepared by SC 65C "Industrial networks" of IEC/TC 65 "Industrial-process measurement, control and automation", together with the common modifications prepared by CLC/TC 65X "Industrial-process measurement, control and automation".

The following dates are fixed:

- latest date by which the document has to be implemented at national level (dop) 2016-03-16  
by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2018-03-16

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## COMMON MODIFICATIONS

**1 Scope**

**Delete** Examples 1 and 2.

**3 Terms, definitions, abbreviated terms and conventions**

In 3.2, **delete** the term 'R&TTE'.

**4 Coexistence concept in industrial automation**

In 4.2, **replace** the first paragraph by the following:

This part of EN 62657 gives guidance to manufacturers of wireless automation devices on how to fulfill requirements of applicable regional and local regulations.

**7 Coexistence management process**

In 7.1.1, **replace** the last paragraph by the following:

In all phases, the local and regional legal and regulatory issues shall be considered and shall be fulfilled.

**Bibliography**

**Add** the following notes for the standards indicated:

IEC 61360 Series	NOTE	Harmonized in EN 61360 Series (not modified).
IEC 61784-1	NOTE	Harmonized as EN 61784-1.
IEC 61784-2	NOTE	Harmonized as EN 61784-2.
IEC 62591	NOTE	Harmonized as EN 62591.

**Replace** the text of entries [20] and [21] by 'Void'.

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IEC 62657-2

Edition 1.0 2013-08

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



**Industrial communication networks – Wireless communication networks –  
Part 2: Coexistence management**

**Réseaux de communication industriels – Réseaux de communication sans fil –  
Partie 2: Gestion de coexistence**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**INDUSTRIAL COMMUNICATION NETWORKS –  
WIRELESS COMMUNICATION NETWORKS –****Part 2: Coexistence management**

## 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.
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International Standard IEC 62657-2 has been prepared by subcommittee 65C: Industrial networks, of 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
65C/736/FDIS	65C/740/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 first edition cancels and replaces IEC/TS 62657-2, published in 2011.

The main changes with respect to the TS are:

- a) updated the normative references, terms, definitions, symbols, abbreviations;
- b) corrected spelling;
- c) changed figures to make them consistent with the text and vice versa;
- d) added and modified text to make the text more readable.

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

A list of all parts of the IEC 62657 series, under the general title *Industrial communication networks – Wireless communication networks*, 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.

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## INTRODUCTION

The market is in need of network solutions, each with different performance characteristics and functional capabilities, matching diverse application requirements. Industrial automation applications cover different industrial application domains like:

- process automation, covering for example the following industry branches
  - oil & gas, refining,
  - chemical,
  - pharmaceutical,
  - mining,
  - pulp & paper,
  - water & wastewater,
  - steel
- electric power like
  - power generation (for example wind turbine),
  - power distribution (grid),
- factory automation, covering for example the following industry branches
  - food & beverage,
  - automotive,
  - machinery,
  - semiconductor.

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Industrial automation applications require behaviors of wireless communication networks that are different from those that are used for example in telecommunications or for commercial like a remote control or toy. These industrial automation requirements are identified and provided in IEC/TS 62657-1.

In industrial automation, many different wireless communication networks may operate in the same premises. Examples of these networks are IEC 62591 [6]<sup>1</sup> (WirelessHART<sup>®2</sup>), IEC 62601 [7] (WIA-PA) and IEC/PAS 62734 [9] (ISA100.11a); all these networks use IEEE 802.15.4 [18] for the process automation applications. Other examples of wireless networks are specified in IEC 61784-1 [3] and IEC 61784-2 [4] CPs that use IEEE 802.11 [14] and IEEE 802.15.1 [16] for factory automation applications. Different to wired fieldbuses, the wireless communication interfaces can interfere with others on the same premises or environment, disturbing each other. Therefore, without a predictable assuredness of coexistence, it could be problematic to have multiple wireless communication networks in the same facility or environment, especially because the time-criticality, the safety and the security of the operation may not be ensured in such an environment.

This part of the IEC 62657 addresses the coexistence management for a predictable assuredness of coexistence.

<sup>1</sup> Figures in square brackets refer to the Bibliography.

<sup>2</sup> WirelessHART is the registered trade name of the HART Communication Foundation. This information is given for the convenience of users of this document and does not constitute an endorsement by IEC of the product named. Equivalent products may be used if they can be shown to lead to the same results.

The IEC 62657 series has two parts:

- Part 1: Wireless communication requirements and spectrum considerations
- Part 2: Coexistence management

IEC/TS 62657-1 [8] provides general requirements of industrial automation and spectrum considerations that are the basis for industrial communication solutions. This second part of IEC 62657 specifies the coexistence management with a predictable assuredness of coexistence. It is intended to facilitate harmonization of future adjustments to international, national, and local regulations.

This Part 2 of IEC 62657 provides the coexistence management concept and process. Based on the coexistence management process, a predictable assuredness of coexistence can be achieved for a given spectrum with certain application requirements.

This Part 2 of IEC 62657 provides guidance to the users of wireless communication networks on selection and proper use of wireless communication networks. To provide suitable wireless devices to the market, it also serves vendors in describing the behaviors of wireless devices to build wireless communication networks matching the application requirements.

This Part 2 of IEC 62657 is based on analyses of a number of International Standards, which focus on specific technologies. The intention of this standard is not to invent new parameters but to use already defined ones and to be technology independent.

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