IEC SRD 63347-2

Edition 1.0 2026-04

SYSTEMS REFERENCE DELIVERABLE

Smart city use case collection and analysis - Managing public health emergencies in smart cities -
Part 2: Use case analysis

ICS 03.100.70

ISBN 978-2-8327-1198-9

IEC SRD 63347-2:2026-04(en)

THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2026 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Secretariat
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

About the IEC
The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications
The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform
The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, …). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished
Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc
If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch
Discover our powerful search engine and read freely all the publications previews, graphical symbols and the glossary. With a subscription you will always have access to up to date content tailored to your needs.

Electropedia - www.electropedia.org
The world's leading online dictionary on electrotechnology, containing more than 22 500 terminological entries in English and French, with equivalent terms in 25 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

Warning! Make sure that you obtained this publication from an authorized distributor.

CONTENTS

FOREWORD 3
INTRODUCTION 5
1 Scope 6
2 Normative references 6
3 Terms and definitions 6
4 Use case analysis approach 6
5 User case derivation and analysis 8
5.1 Testing and tracking 8
5.1.1 Use case derivation 8
5.1.2 User stories 8
5.1.3 Use cases 8
5.1.4 Use case analysis 9
5.2 Effective treatment 10
5.2.1 Use case derivation 10
5.2.2 User stories 10
5.2.3 Use cases 10
5.2.4 Use case analysis 11
5.3 Medical supply chain management 12
5.3.1 Use case derivation 12
5.3.2 User stories 12
5.3.3 Use cases 12
5.3.4 Use case analysis 14
5.4 Supply chains and services 15
5.4.1 Use case derivation 15
5.4.2 User stories 15
5.4.3 Use cases 16
5.4.4 Use case analysis 17
5.5 Digital supplies and technology support 17
5.5.1 Use case derivation 17
5.5.2 User stories 17
5.5.3 Use cases 18
5.5.4 Use case analysis 19
5.6 Management platform 20
5.6.1 Use case derivation 20
5.6.2 User stories 20
5.6.3 Use cases 21
5.6.4 Use case analysis 22
5.7 Finances plans 22
5.7.1 Use case derivation 22
5.7.2 User stories 22
5.7.3 Use cases 23
5.7.4 Use case analysis 24
5.8 Maintaining normal life 24
5.8.1 Use case derivation 24
5.8.2 User stories 25
5.8.3 Use cases 25

5.8.4 Use case analysis 26
5.9 City collaboration 27
5.9.1 Use case derivation 27
5.9.2 User stories 27
5.9.3 Use cases 28
5.9.4 Use case analysis 29
6 Application of the analysis 30
6.1 General 30
6.2 Standard hierarchy 30
6.2.1 General 30
6.2.2 Business aspect 30
6.2.3 Technology aspect 30
6.2.4 Management aspect 31
6.2.5 Servicing aspect 31
Bibliography 32

Figure 1 – Approach for use case collection and analysis 7
Figure 2 – Coding for user stories /use cases 7

Table 1 – User stories for HLUC-1 Test and tracking 8
Table 2 – Use cases for HLUC-1 9
Table 3 – User stories for HLUC-1 10
Table 4 – Use cases for HLUC-1 11
Table 5 – User stories for HLUC-1 12
Table 6 – Use cases for HLUC-1 13
Table 7 – User stories for HLUC-1 15
Table 8 – Use cases for HLUC-1 16
Table 9 – User stories 17
Table 10 – Use cases 18
Table 11 – User stories for HLUC-1 20
Table 12 – Use cases for HLUC-1 21
Table 13 – User stories for HLUC-1 22
Table 14 – Use cases for HLUC-1 23
Table 15 – User stories for HLUC-1 25
Table 16 – Use cases for HLUC-1 25
Table 17 – User stories for HLUC-1 27
Table 18 – Use cases for HLUC-1 28

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

Smart city use case collection and analysis - Managing public health emergencies in smart cities - Part 2 : Use case analysis

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) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at https://patents.iec.ch. IEC shall not be held responsible for identifying any or all such patent rights.

IEC SRD 63347-2 has been prepared by IEC systems committee Smart Cities: Electrotechnical aspects of smart cities. It is a Systems Reference Deliverable.

The text of this Systems Reference Deliverable is based on the following documents:

Draft	Report on voting
SyCSmartCities/403/DTS	SyCSmartCities/428/RVDTS

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

The language used for the development of this Systems Reference Deliverable is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 63347 series, published under the general title *Smart city use case collection and analysis - Managing public health emergencies in smart cities*, 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 webstore.iec.ch in the data related to the specific document. At this date, the document will be

– reconfirmed,

– withdrawn, or

– revised.

INTRODUCTION

The construction of a smart city can create benefits for a society and its stakeholders. Tracking infectious diseases, responding to public health emergency, maintaining social order and recovering to normal life are critical to support urban long-term development and to keep good health and well-being as UN 17 Sustainability Goals. Early testing, effective treatment, medical supplies and related public services are important focal areas for IEC SyC Smart Cities.

This document focuses on leveraging Information and communication technology (ICT) to enhance the management of public health emergencies in smart cities. As demonstrated by the Covid 19 pandemic, technology simultaneously provides methods and approaches for achieving high visibility of diseases and controlling them.

A gap exists in effective coordination and clear orientation across sectors, which hinder industry and stakeholders' engagement.

Major stakeholders include citizens, the government sectors, healthcare facilities, business entities, research institutes, global professional organization and financial services provider. Each stakeholder has specific concerns and challenges on dealing with public health emergency.

Modelling these complex interactions into a systems architecture is a valuable exercise in understanding the issues, gaps and opportunities for sustainable development.

This document focuses on use case collection and analysis to refine requirements to support technical committees such as ISO/TC 224 and ISO/TC 147 in preparing standards.

This document also seeks to inform IEC technical committees to enable them to provide the technical standards needed.

The IEC SRD 63347 series contains two parts:

– IEC SRD 63347-1: Smart city use case collection and analysis - Managing public health emergencies in smart cities - Part 1: High level analysis

– IEC SRD 63347-2: Smart city use case collection and analysis - Managing public health emergencies in smart cities - Part 2: Use case analysis

This document aims to develop the list of user stories and the database of use cases, conduct integrative analyses of the use cases, scope out the requirements about management of public health emergencies system standards and provide recommendations for IEC and other standard development organizations (SDOs).

1 Scope

This part of IEC SRD 63347 develops the list of user stories and the database of use cases, conducts integrative analyses of the use cases, scopes out the requirements of management of public health emergencies standards and provides recommendations for IEC and other standard development organizations (SDOs).

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 SRD 63347-1, *Smart city use case collection and analysis - Managing public health emergencies in smart cities - Part 1: High level analysis*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 63347-1 and the following apply.

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

– IEC Electropedia: available at https://www.electropedia.org/

– ISO Online browsing platform: available at https://www.iso.org/obp

3.1
domain
area of knowledge or activity characterized by a set of concepts and terminology understood by the practitioners in that area

EXAMPLE Taken from Smart Grid/energy system area: Generation, transmission, distribution, customer.

Note 1 to entry: Major area of similar technologies and organizational background, for the energy system some domains are suggested in this document as examples throughout this document.

[SOURCE: ISO/IEC 19501:2005, Glossary, modified – Example and note to entry added.]

4 Use case analysis approach

A top-down approach is adopted in the process of use case collection and analysis concerned in this document, following the general methodology set forth by the IEC 62559 series. See Figure 1.