IEC SRD 63347-1

Edition 1.0 2025-08

SYSTEMS REFERENCE DELIVERABLE

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

ICS 03.100.70; 33.040.60

ISBN 978-2-8327-0648-0

IEC SRD 63347-1:2025-08(en)

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 It also gives information on projects, replaced and withdrawn publications.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.

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

Smart city use case collection and analysis – Managing public health emergencies in smart cities - Part 1: High level 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 63347-1 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/378/DTS	SyCSmartCities/389/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

Smart cities are a key trend of urban development in the new information age, and an effective way to ensure that cities are built and managed in a way that best supports the needs of their residents. The major international standardization organizations are vigorously promoting the research and development of standards. However, the Covid 19 pandemic has demonstrated that there are few relevant international standards that provide guidance for the smart city to respond to public health emergencies, as well as a lack of unified understanding and systematic review, and clear direction for the development of such standards, which affects the development and application of international standards for smart city public health emergency (PHE).

In response to the above issues, this document: "Use case collection and analysis – Management of public health emergencies in smart cities" has been developed to collect relevant use cases in important scenarios of smart city management under public health emergencies in order to enable national and international standards development organizations develop a comprehensive portfolio of standards to help cities be well prepared for any future public health emergency.

1 Scope

This part of IEC 63347 describes and analyses a comprehensive set of high-level scenarios of how smart cities can best respond to public health emergencies, and strengthen their "urban immune system", using evidence from as many countries as possible. It covers use cases related to the prevention, the control and the successful ending of public health emergencies, and to dealing with the longer-term harm that these can cause. It considers a wide range of different scenarios and reviews both the management challenges and the range of technology solutions, including the use of IoT, telecommunications, AI, big data, and cloud computing, available in each of them, in order to provide a comprehensive outline of the standardization requirements to develop an effective urban immune system.

The public health emergencies envisaged are those relating to pandemics resulting from novel forms of disease, for which there is no natural immunity within the population and no tried and tested treatment. However, some of its provisions will be helpful to dealing with pandemics of existing diseases such as typhoid and cholera brought on through natural disasters or war.

This document will provide useful information to international and national standards development organizations and thus facilitate and promote the development of the smart city standards required. Annex A gives a use case database collection and descriptions.

2 Normative references

There are no normative references in this document.