

SYSTEMS REFERENCE DELIVERABLE

Smart city system – Methodology for concepts building

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 01.040.01

ISBN 978-2-8322-9388-1

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

CONTENTS

FOREWORD.....	3
INTRODUCTION.....	4
1 Scope.....	5
2 Normative references	5
3 Terms and definitions	5
4 Methodology for smart city system concepts building.....	6
4.1 General.....	6
4.2 A system of systems view	7
4.3 A methodology framework.....	8
4.4 Principles.....	9
4.5 Processes.....	10
4.6 Rules	11
4.7 Evaluation criteria for assessment of the concept and domain relevance	12
4.7.1 General considerations	12
4.7.2 Domain relevance assessment	12
4.7.3 Stakeholders relevance assessment	12
4.7.4 Domain and stakeholders matrix relevance assessment	12
Annex A (informative) Example of a smart city concept system building from three SDOs.....	14
A.1 Concepts relating to smart city	14
A.2 Relationships of concepts relating to smart city.....	16
Bibliography.....	17
Figure 1 – Concept views of smart city systems	8
Figure 2 – A methodology framework for building smart city system concept.....	9
Figure A.1 – Concepts relating to smart city and their relationships	16
Table 1 – Domain and stakeholders matrix relevance assessment	13
Table A.1 – Definitions of smart city from different SDOs and the key terms	15

INTERNATIONAL ELECTROTECHNICAL COMMISSION

SMART CITY SYSTEM – METHODOLOGY FOR CONCEPTS BUILDING

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.

IEC SRD 63235, which is a Systems Reference Deliverable, has been prepared by IEC systems committee Smart Cities.

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

Draft SRD	Report on voting
SyCSmartCities/135/DTS	SyCSmartCities/153/RVDTS

Full information on the voting for the approval of this Systems Reference Deliverable 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.

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.

INTRODUCTION

This document provides methodologies being performed and to be continually performed in the sustainable development of a future part of IEC 60050¹ on smart city systems.

The methodology in this document provides system approaches to coordination, cooperation and connectivity of the terminology sources including IEC, ISO and ITU. The methodology fosters a multi-dimensional system of systems view on smart city systems across dimensions, domains and layers along the lifecycle of a smart city system, scenarios and use cases, supporting the sustainable development of smart city system arrangements, activities and artefacts, convergence of people, process and productivity globally.

¹ Planned as IEC 60050-831, *International Electrotechnical Vocabulary (IEV) – Smart city systems*.

SMART CITY SYSTEM – METHODOLOGY FOR CONCEPTS BUILDING

1 Scope

This document, which is a Systems Reference Deliverable, provides a holistic system of systems approach to provide views, methodology framework, principles, processes, rules, and evaluation criteria for smart city system concepts building.

The methodology is applicable to continual improvement of a future part of IEC 60050 on smart city systems, but is not limited to it.

NOTE It is planned that smart city systems will form the subject of IEC 60050-831.

This document does not specify the definitions of a smart city system.

2 Normative references

There are no normative references in this document.