
**Information technology — Smart City
ICT reference framework —**

**Part 1:
Smart city business process
framework**



This document is a preview generated by EBS



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier; Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Smart city business process overview	1
5 Smart city governance processes	2
5.1 General	2
5.2 Leadership	3
5.3 Stakeholder Engagement and Citizen Focus	4
5.4 Integrated Management	5
5.5 Sustainability and Resilience Management	6
5.6 External Interface Management	7
6 Smart city core processes	7
6.1 General	7
6.2 Health, Social, Care and Wellness	8
6.3 Education and Research	9
6.4 Smart Infrastructure and Building	11
6.5 Integrated Transportation	12
6.6 Resources Management	13
6.7 Environment Management	14
6.8 Safety and Security	15
6.9 Economic Development	16
6.10 Culture and Entertainment	17
6.11 Tourism	18
7 Smart city Supporting processes	19
7.1 General	19
7.2 Enterprise Processes	19
7.3 Smart Legal and Regulatory Systems and Services	21
7.4 Integrated Portfolio Management	22
7.5 Open Innovation	23
7.6 Knowledge Management	24
7.7 Integrated Engineering	25
8 Mapping the business processes of a smart city	26
8.1 General	26
8.2 The methodology	27
8.2.1 Stage 1	27
8.2.2 Stage 2	27
8.2.3 Stage 3	28
Annex A (informative) Mapping the business processes onto ISO 37106 processes	29
Bibliography	33

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents) or the IEC list of patent declarations received (see patents.iec.ch).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html. In the IEC, see www.iec.ch/understanding-standards.

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.

A list of all parts in the ISO/IEC 30145 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

Introduction

0.1 General

The purpose of the ISO/IEC 30145 series is to assist city chief information officers (CIO) and other stakeholders in planning and implementing a smart city. It comprises the following three parts:

- Part 1: Smart city business process framework (this document)
- Part 2: Smart city knowledge management framework
- Part 3: Smart city engineering framework

Each of the three parts are aimed at a different role or viewpoint within the city and thus separate focus needs to be maintained. The "separation of concerns" is a principle for the development of a city as it uses ICT to deliver the vision and objectives for the city. The value of using the separation of concerns is to simplify development and maintenance of the architecture as the city both develops and delivers improved outcomes for the city stakeholders.

Figure 1 shows the components of the smart city ICT reference framework, which consist of 5 components: stakeholders, vision and outcomes, the business process framework, the knowledge management framework, and the engineering framework. This document describes stakeholders, vision and outcomes, and the business process framework. The knowledge management framework and engineering framework are described in ISO/IEC 30145-2 and ISO/IEC 30145-3 respectively.

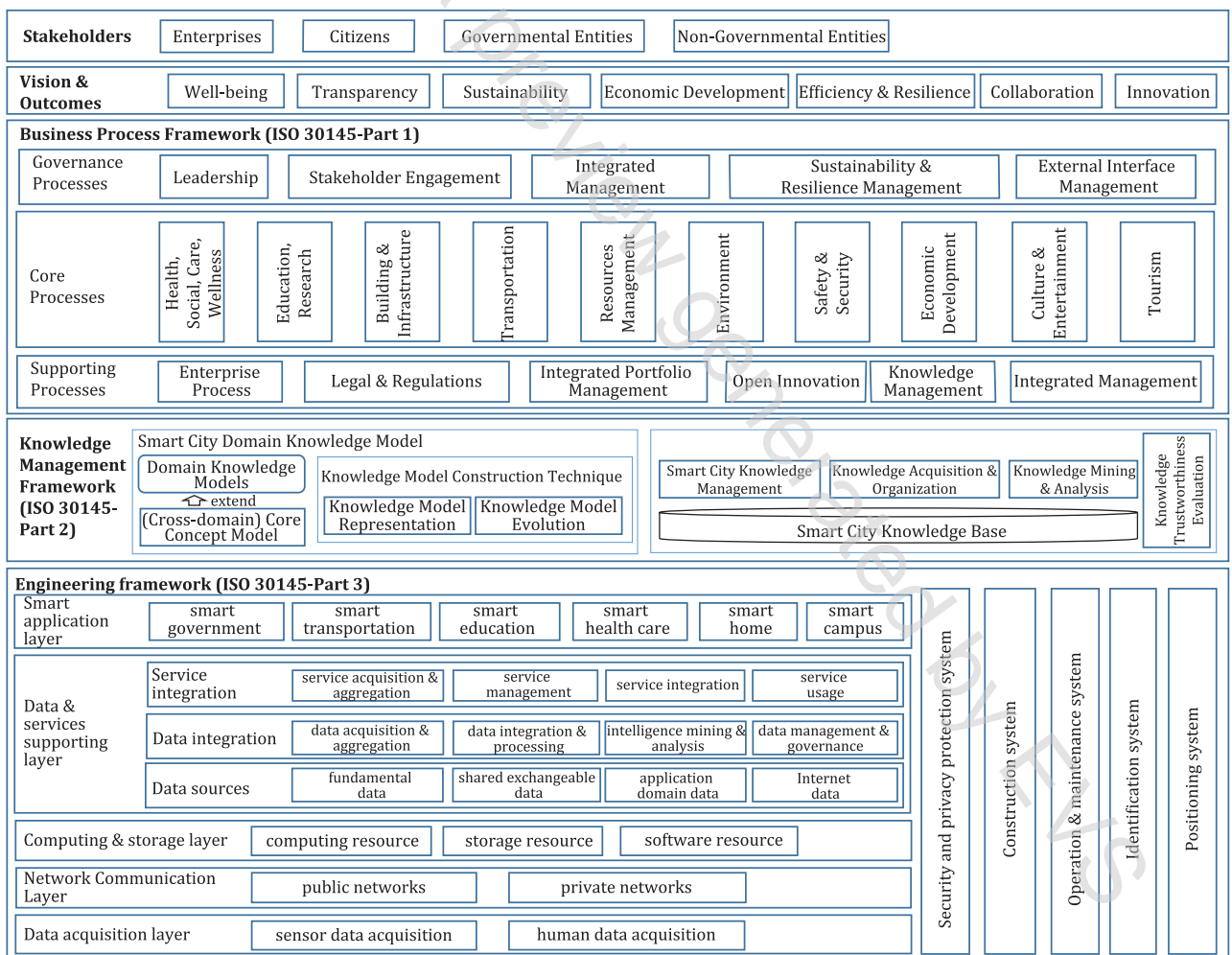


Figure 1 — Smart city ICT reference framework

0.2 Stakeholders

The stakeholders served by the smart city ICT reference framework are enterprises, citizens, government entities and non-government entities. This stakeholder list is not exhaustive but defines the key stakeholders in a smart city and the user for the smart city ICT reference framework.

0.3 Vision and outcomes

The motivation for making a city smart is a result of a shared vision and a set of agreed outcomes from all the city stakeholders. The vision and outcomes of the smart city ICT reference framework are well-being, transparency, sustainability, economic development, efficiency and resilience, collaboration and innovation. This vision and outcomes list is not exhaustive, but defines the key vision and outcomes of a smart city. The smart city ICT reference framework articulates a vision that the Smart City will be transparent in the delivery of city services that meet city sustainability ambitions. This vision uses collaboration and innovation approaches to deliver desired city outcomes. City outcomes are expected to improve the efficiency and resilience of city services and promote economic development activities that enhance the well-being of citizens.

Information technology — Smart City ICT reference framework —

Part 1: Smart city business process framework

1 Scope

This document specifies a generic business process framework for a smart city focusing solely on smart city-specific processes. Generic business processes common between smart cities and commercial organizations are identified but not detailed.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

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/>

4 Smart city business process overview

The objectives of a business process framework (adapted from the TM Forum 2015^[8]) are to:

- create a common language for use across departments, systems, external partners and suppliers, reducing cost and risk of system implementation, integration and procurement; and
- adopt a standard structure, terminology and classification scheme for business processes to simplify internal operations and maximize opportunities to partner within and across industries.

The aim of the smart city business process framework is to identify and describe the key business processes required in a smart city and to provide a framework for individual cities to describe how those processes are being carried out within their city.

This will:

- allow cities to review how well their existing processes are designed to deliver the smart city outcomes for which they are aiming;
- allow business processes in different cities to be compared to enable the determination of best practices; and
- provide a foundation to enable more detailed work to be undertaken on these business processes in the future.

The business processes in this document are only a fraction of all the business processes found in a smart city. Only the most significant processes that make a city 'smart' have been included.