SVENSK STANDARD
SS-ISO 37106:2020

Hållbara städer och samhällen – Vägledning för att etablera smarta stadsmodeller för hållbara samhällen (ISO 37106:2018, IDT)

Sustainable cities and communities – Guidance on establishing smart city operating models for sustainable communities (ISO 37106:2018, IDT)

Svenska Institutet för Standarder

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Standarden är framtagen av kommittén för Hållbara smarta städer och samhällen, SIS/TK 588.

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Den internationella standarden ISO 37106:2018 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av ISO 37106:2018.

The International Standard ISO 37106:2018 has the status of a Swedish Standard. This document contains the official English version of ISO 37106:2018.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 ISO documents 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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO 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).

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.

This document was prepared by Technical Committee ISO/TC 268, *Sustainable cities and communities*.

In the development of this document, ISO Guide 82 has been taken into account in addressing sustainability issues.

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.

Introduction

This document helps cities deliver their vision for a sustainable future, by providing a toolkit of "smart practices" for managing governance, services, data and systems across the city in an open, collaborative, citizen-centric and digitally-enabled way. It defines a "smart operating model" for cities, which enables them to operationalize their vision, strategy and policies at a faster pace, with greater agility and with lower delivery risk.

This means, in particular, a focus on enabling cities to:

a) make current and future citizen needs the driving force behind investment decision-making, planning and delivery of all city spaces and systems;

b) integrate physical and digital planning;

c) identify, anticipate and respond to emerging challenges in a systematic, agile and sustainable way;

d) create a step-change in the capacity for joined-up delivery and innovation across organizational boundaries within the city.

Although many of the principles and methodologies established by this document are relevant within specific vertical sectors of cities (e.g. water, waste, energy, urban agriculture, transport, IT), the focus is very much on the issues and challenges involved in joining all of these up into a whole-city strategic approach to the use of smart data, smart ways of working and smart technologies. Central to this document is therefore a strong emphasis on leadership and governance, culture, business model innovation, and the active role played by citizens, businesses and civil society in the creation, delivery and use of city spaces and services.

This document is aimed at city leaders. Much in the guidance can also be helpful to leaders of communities other than at city-scale, including both smaller urban areas and larger, regional-scale initiatives. But the prime intended audience, with whom the guidance has been developed and validated, is city leaders, including:

— policy developers in city authorities – both those responsible for the authority's service design, commissioning and delivery role, and also those responsible for its community leadership role, in particular:
  — elected leaders;
  — senior executives of local authorities (including chief executives, chief information officers and directors of key departments);
  — senior executives of other public bodies with a city-wide remit;
— other interested parties interested in leading and shaping the city environment, including:
  — senior executives in the private sector who wish to partner with and assist cities in the transformation of city systems to create shared value;
  — leaders from voluntary sector organizations active within the city;
  — leaders in the higher and further educations sectors;
  — community innovators and representatives.

In addition to this leadership audience, the document will be of interest to all parties engaged in smart cities, including individual citizens.

The working definition of a smart city used for the purposes of this document is that approved by ISO TMB:

A smart city should be described as one that 'dramatically increases the pace at which it improves its sustainability and resilience… by fundamentally improving how it engages society, how it applies collaborative leadership methods, how it works across disciplines and city systems, and how it uses data and integrated technologies… in order to transform services and quality of life to those in and involved with the city (residents, businesses, visitors).'

NOTE This is deliberately presented as a working definition rather than intended as a definitive definition which all cities are to follow. While there is a strong degree of commonality among the smart city strategies that are being developed around the world, there is also significant diversity. All cities embarking on the development of a smart city strategy can define their own reasons for doing so, in their own language; the process of discussion and debate between interested parties to define what, for them, is meant by "Smart Paris", "Smart Tokyo" or "Smart Toronto" is an important one.

Sustainable cities and communities — Guidance on establishing smart city operating models for sustainable communities

1 Scope

This document gives guidance for leaders in smart cities and communities (from the public, private and voluntary sectors) on how to develop an open, collaborative, citizen-centric and digitally-enabled operating model for their city that puts its vision for a sustainable future into operation.

This document does not describe a one-size-fits-all model for the future of cities. Rather, the focus is on the enabling processes by which innovative use of technology and data, coupled with organizational change, can help each city deliver its own specific vision for a sustainable future in more efficient, effective and agile ways.

This document provides proven tools that cities can deploy when operationalizing the vision, strategy and policy agenda they have developed following the adoption of ISO 37101, the management system for sustainable development of communities. It can also be used, either in whole or in part, by cities that have not committed to deployment of the ISO 37101 management system.

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.

ISO 37100, *Sustainable cities and communities — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 37100 and the following apply.

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/

NOTE 1 The term “smartness”, defined in ISO 37101 as a “quality of contributing to sustainable development and resilience, through soundly based decision making and the adoption of a long- and short-term perspective”, is particularly relevant to this document. Smartness is embedded in the process of sustainable development, i.e. sustainable development is the overarching process, while smartness is a characteristic. It implies a holistic approach, including good governance and adequate organization, processes and behaviours, and appropriate innovative use of techniques, technologies and natural resources.

NOTE 2 The term “smart community infrastructure”, defined in ISO/TS 37151 as “community infrastructure with enhanced technological performance that is designed, operated, and maintained to contribute to sustainable development and resilience of the community”, is also relevant when referring specifically to infrastructure.

3.1
innovation ecosystem
complex system of interdependent components from the public and private sectors that work together to enable innovation within a city or community

3.2
silo
group of individuals/teams/organizations that collaborate to deliver a specific function within a city

EXAMPLE Education, energy, transport.

3.3
citizen-centric
<design and delivery of city services> driven by the needs of citizens rather than the functional structures of a city's silos

Note 1 to entry: The term citizen in this context includes residents, visitors and businesses within the city.

4 Overview of this document

4.1 Transforming the traditional operating model for cities

The traditional operating model for a city is based around functionally-oriented service providers that operate as unconnected vertical silos, which are often not built around user needs. This document defines best practices in moving to a "smart city operating model" – one which enables cities to drive innovation and collaboration across these vertical silos and hence operationalize their vision, strategy and policies at a faster pace, with greater agility and with lower delivery risk.

Traditionally, budget-setting, accountability, decision-making and service delivery have been embedded within vertically-integrated delivery chains inside cities – delivery silos which are built around functions, not user needs. This is illustrated in Figure 1:

— the individual citizen or business has had to engage separately with each silo, making connections for themselves rather than receiving seamless and connected service that meets their needs;

— data and information has typically been locked within these silos, limiting the potential for collaboration and innovation across the city, and limiting the potential to drive city-wide change at speed.

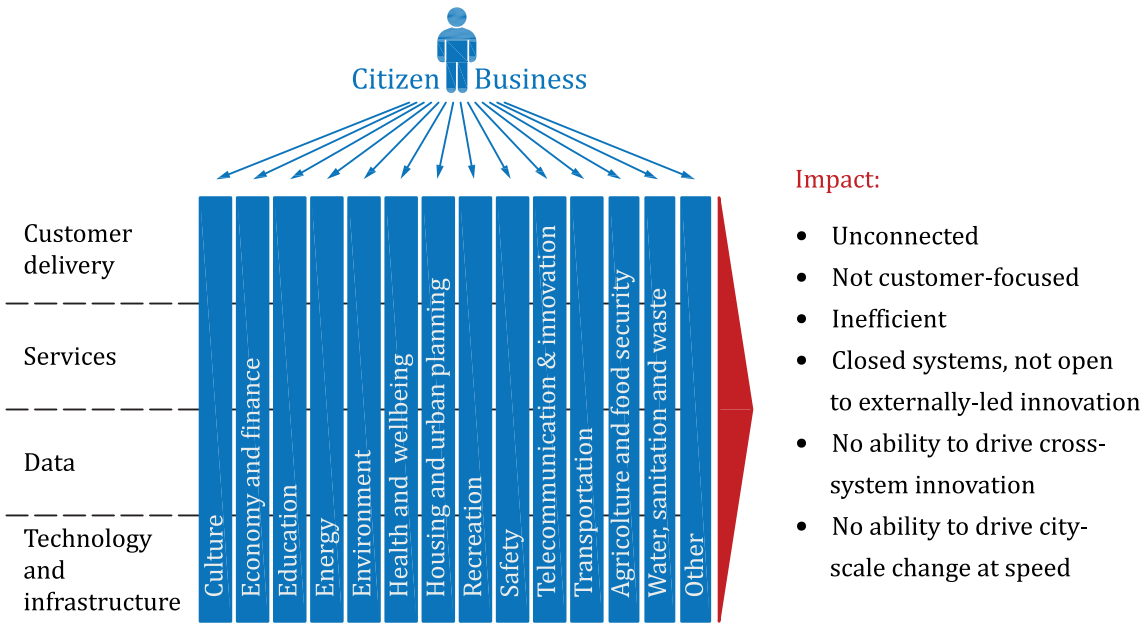

Figure 1 — Traditional operating model: where cities have come from

Figure 2 summarizes the change to this traditional way of operating, which smart cities are seeking to implement.

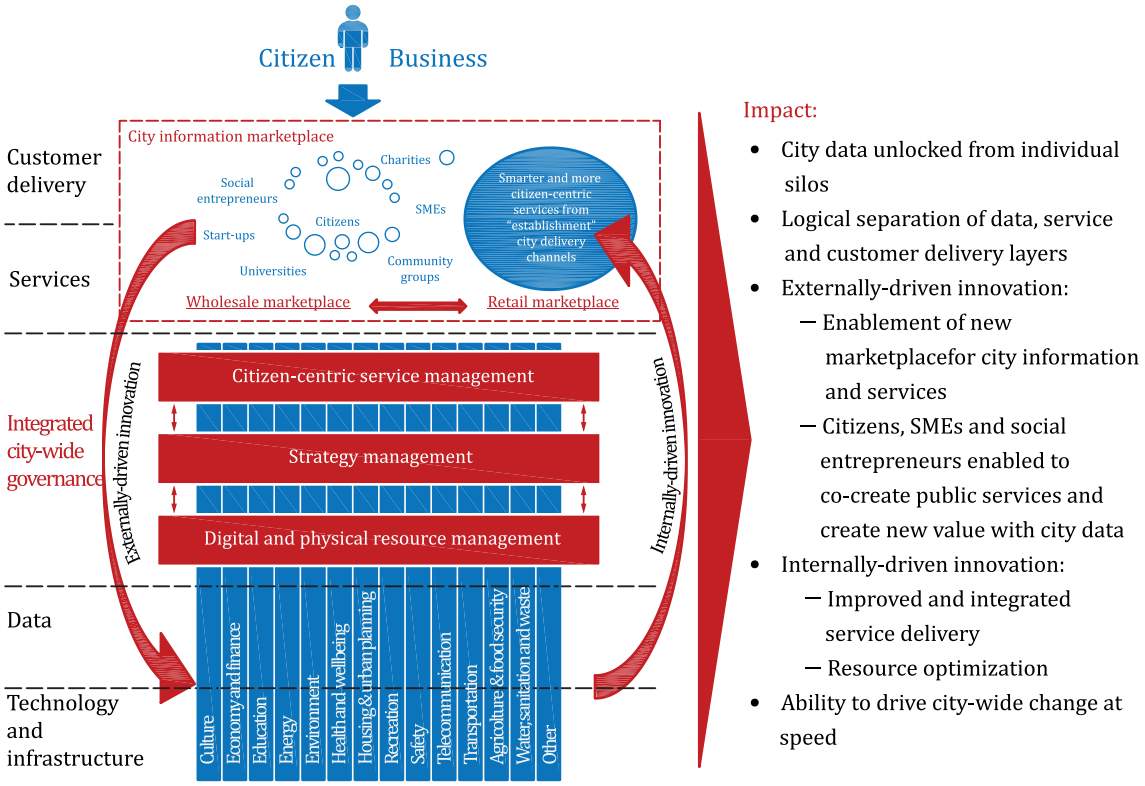

Figure 2 — A smart city operating model: where cities are moving to

Key features of this shift to a smart city operating model include:

a) investing in smart data, i.e. ensuring that data on the performance and use of the city's physical, spatial and digital assets is available in real time and on an open and interoperable basis, in order to enable real-time integration and optimization of city resources;

b) managing city data as an asset in its own right, both within the local authority and in collaboration with other significant data owners across the city;

c) enabling externally-driven, community-led innovation by citizens, businesses and civil society, by opening up city data and services for the common good:

   1) both at a technical level, through development of open data platforms; and

   2) at a business level, through steps to enable a thriving market in reuse of public data together with release of data from commercial entities in a commercially appropriate way;

d) enabling internally-driven, city-led innovation to deliver more sustainable and citizen-centric services, by:

   1) providing citizens and businesses with public services, which are accessible in one stop, over multiple channels, that engage citizens, businesses and communities directly in the creation of services, and that are built around user needs, not the city's organizational structures;

   2) establishing an integrated business and information architecture which enables a whole-of-city view of specific customer groups for city services (e.g. commuters, elderly people, troubled families, disabled people);

e) setting holistic and flexible budgets, with a focus on value for money beyond standard departmental boundaries;