INTERNATIONAL STANDARD

ISO 37110

Sustainable cities and communities — Management requirements and recommendations for open data for smart cities and communities — Overview and general principles

Villes et communautés territoriales durables — Exigences et recommandations en matière de gestion des données ouvertes pour les villes et communautés territoriales intelligentes — Vue d'ensemble et principes généraux

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Foreword

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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).

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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*.

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

The public sector is one of the most data-intensive sectors, as it generates as well as consumes, a huge amount of public service information on a regular basis. Besides the need for transparency, the openness of this data can contribute to the planned growth of cities, the development of technological municipal infrastructure, improved governance, and overcoming societal challenges. Many countries have established an online platform that discloses data collected by public sectors. Such 'open data' is freely available data that can be accessed, used, re-used, distributed, and re-distributed by any process of interest, without any restriction or limitation. Open data are part of an open government that makes accountable, responsive and inclusive governance. Open data are part of the development of a data and platform economy and favour greater integration and infrastructure connectivity.

In this context, public sector bodies have realized not only the value and importance of the data they hold in their registers, databases and IT systems, but also understand that these data should be set free as far as possible. Open data in smart cities can include rapid velocity of real-time data in large volumes, as well as publishing and connecting structured data sets, such as linked data, within the infrastructure of all cities, which can be accessible via online analysis, source files, online visualization and Application Programming Interfaces (APIs).

For sustainable cities and communities, especially developed and managed under requirements specified in ISO 37101, adaptation and utilization of open data is expected to enhance smartness, resiliency, transparency, accountability and sustainability, by fostering business creation and development of solutions for the city, as well as creating a new value or benefiting people and stakeholders within. Open data can improve quality and speed of preparation of plans and infrastructure projects for the city.

However, despite the benefit of use and necessity of open data, there is not enough information or standards in the management of open data to be utilized in sustainable cities and communities.

Therefore, for those who are involved in the management process of open data, it is necessary to define the management framework of open data in terms of management processes, e.g. strategic planning, evaluation, identification, preparation, publication, maintenance, and quality management.

The primary audience for this document is officials in cities and the public sector, researchers, research institutions and civil society organizations. Secondary audiences can be those who are in the private sector, including non- or for-profit organizations.
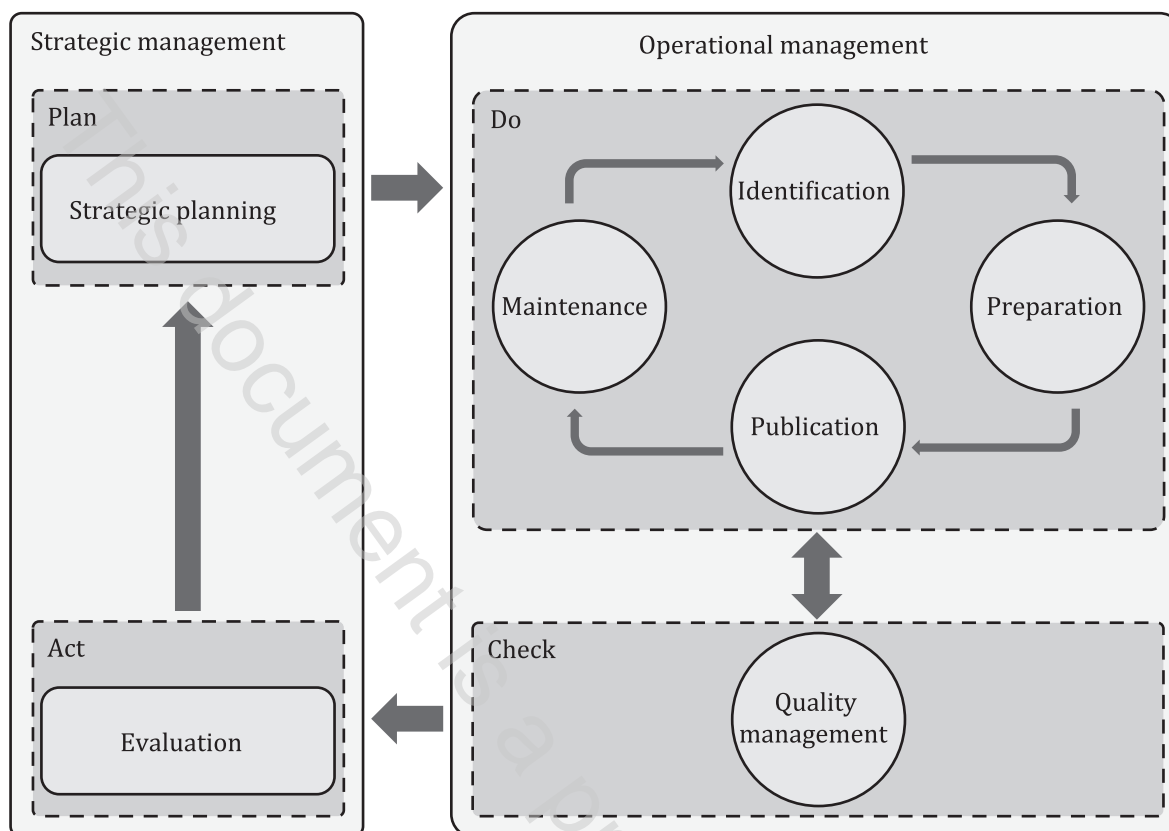
Figure 1 — Plan-Do-Check-Act (PDCA) model of open data management

These management processes are based on the Plan-Do-Check-Act (PDCA) model (Figure 1) and the processes are described and mapped as follows:

— Plan: strategic planning process, involving end-user and cross-sector and cross-jurisdictional knowledge, that defines problems and goals to achieve;

— Do: identification, preparation, publication, and maintenance of open data to achieve predefined goals;

— Check: quality management process that monitors and measures other processes against predefined operational rules and lawful regulations and reports to the necessary processes and partnerships to act on the results;

— Act: evaluation process that recommends necessary actions to integrated planning process to improve overall usage and management performance of open data.

Sustainable cities and communities — Management requirements and recommendations for open data for smart cities and communities — Overview and general principles

1 Scope

This document provides an overview and general principles, including requirements and recommendations, for open data management for sustainable cities and communities. It is intended to be used as a base document for open data management framework standards.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

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

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

3.1
open data
data available without restrictions from copyright, patents or other mechanisms of control or costs, regardless of access, or use

Note 1 to entry: "without restrictions" does not mean that there is no copyright, patents or ownership of the data, simply that users of the data are able to make use of the data under license terms that make clear that there are no restrictions on that use, other than potentially a requirement to attribute the source of the data.

Note 2 to entry: "regardless of access, or use" means that it has universal participation and it is available to use, re-use and redistribute for any purpose, as long as the integrity of its opening and origin is preserved.

[SOURCE: ISO/TR 21797:2019, 3.5, Notes 1 and 2 to entry have been added.]

4 Overview of open data

4.1 Purpose of open data

Open data is freely available data that can be accessed, used, re-used, distributed, and re-distributed by any process of interest, without any restriction or limitation.

The purpose of making data open is to create a new value or benefit to the dataset's originator and different groups of people and organizations.

In most cases, prospective open data is collected and managed by government agencies or the public sector. The main beneficiaries of open government data in cities are citizens, as well as the public sector, civil society organizations, researchers and research institutions and the private sector, including start-up companies.

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