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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Smart community infrastructures - Guidelines on data
exchange and sharing for community infrastructures based on
geographic information**

智慧城市基础设施 基于地理信息的城市基础设施数据交换与共享指南
(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is equivalent to ISO/T S37172.2022 "Smart city infrastructure - Urban infrastructure data exchange based on geographic information" Exchange and Sharing", the file type was adjusted from ISO 's technical specifications to my country's national standards.

The following minimal editorial changes were made to this document.

--- In order to coordinate with the existing standards, the name of the standard is changed to "Smart City Infrastructure Based on Geographic Information Urban Infrastructure Data Data Exchange and Sharing Guide.

--- Added a note on the correspondence between domestic and international documents (see Chapter 3, 7.2).

Introduction

In the process of smart city construction, data on urban infrastructure such as energy, water, transportation, waste and information and communication technology (ICT) are particularly important.

ISO 37156 focuses on data exchange and management of smart city infrastructure.

Sharing provides guidance for entities that develop and operate urban infrastructure to exchange and share data.

In the practical research pilot project of ISO TC268/SC1 results such as 37171, it was found that more operational standards are needed to provide a basis for smart city infrastructure.

Provide technical guidance for the implementation and application scenarios of infrastructure data exchange and sharing.

Disasters and other disasters have put forward new requirements for the application of geographic information, and geographic information data has become an important basic data for smart cities.

The relevant departments carried out information construction independently, resulting in different versions of infrastructure data, poor circulation, and poor sharing, which also led to the information system in order to solve these problems, it is necessary to establish a data exchange and sharing framework for urban infrastructure to provide cities with Planning, construction and management provide authoritative, unified and convenient smart city infrastructure services to avoid duplication of construction and achieve resource integration

and sharing at the same time, the exchange and sharing of urban infrastructure data based on geographic information involves different stakeholders, different data types and the different stages of the data life cycle (e.g. production, storage, distribution). There is a need to strengthen collaboration among different stakeholders to clarify their Therefore, it is necessary to establish a geographic information system based on geographic information.

Establish practical standards and provide effective technical guidance for the implementation of data exchange and sharing of smart city infrastructure and the construction of application scenarios.

As one of the standards for data exchange and sharing of smart city infrastructure, this document verifies the scientificity and usability of ISO 37156.

As an implementation case of ISO 37156 in geographic information, this document helps to improve the content of ISO 37156.

This document aims to guide data exchange in industries related to smart city infrastructure.

These activities include, but are not limited to, standard setting, data production, equipment procurement and construction, platform construction and policy formulation.

Smart city infrastructure based on geographic information Guidelines for urban infrastructure data exchange and sharing

1 Scope

This document provides a framework and application scenarios for exchanging and sharing smart city infrastructure data based on geographic information.

This document is applicable to all types of cities to exchange and share urban infrastructure data based on geographic information, and other non-urban infrastructure for reference use in data exchange and sharing.

2 Normative references

This document has no normative references.

3 Terms and definitions

The following terms and definitions apply to this document.

An information system that processes information about phenomena related to locations on Earth.

[Source. GB/T 33188.1-2016, 4.1.20] 3.2 A system of facilities, equipment, and services that support urban operations and activities.

Note: Such urban infrastructure includes, but is not limited to, energy, water, transport, waste and information and communication technology (ICT).

[Source. GB/T 40758-2021, 3.6.1, modified] 3.3 Urban infrastructure (3.2) with high technical capabilities in the design, operation and maintenance of cities and communities to promote resilience and sustainability Sustainable development.

Note 1: In this document, it is infrastructure rather than cities that are considered "smart".

Note 2: Sustainable development requires that urban infrastructure simultaneously meet diverse and often conflicting demands.

Note 3: Information and communication technology (ICT) is an enabler rather than a prerequisite for the realization of smart city infrastructure.

[Source. GB/T 40758-2021, 3.6.2, modified]

4 Abbreviations

The following abbreviations apply to this document.

APP Application