Chapter 6
Infrastructure and Industry Economy

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ABSTRACT

This chapter collects and organizes information about the infrastructure construction standards of smart cities and the development of industrial economy in several countries, briefly describes the standards of various aspects of infrastructure in China and the ISO standards, and analyses the similarities and differences between the two standards. It also provides a suggestion for the writing of standards; at the same time, it summarizes the development status of China, the United States, and the United Kingdom in the industrial economy of smart cities and analyzes and summarizes the specific conditions of each country.

BACKGROUND

Since 2010, IBM has proposed the vision of a smart city, and the world has set off a transformation of cities that build smart cities and improved residents' lives. In addition to economy and urban infrastructure construction, imperfect specific standards have also hindered good development of smart cities. As for smart cities infrastructure standards, ISO standards have been applied to smart cities community infrastructure in various aspects, such as the development of operational frameworks, demand principles, etc. Then, it is still being supplemented and improved. As a country that has just started smart cities construction, China is short of complete standards. This is not only caused by its late start, but also determined by its national conditions. Simple imitation of international standards has been done, but specific investigation and then specific description need to be carried out by China.

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1 BRIEF INTRODUCTION TO CHINA SMART CITIES INFRASTRUCTURE STANDARDS AND ISO INTERNATIONAL STANDARDS

1.1 China Smart Cities Infrastructure Standards

1.1.1 Definition of Smart Cities Municipal Infrastructure

The general term of engineering infrastructure and social infrastructure is involved in urban municipal management, which generally refers to buildings, structures, and equipment in the planning area, including roads, bridges and tunnels, transportation, gas, water supply, drainage, heating, lighting, sanitation, gardens and green spaces, and comprehensive pipe gallery facilities(Standardization Administration of China,2019).

1.1.2 The Scope

It includes engineering infrastructure and social infrastructure(Standardization Administration of China,2019).

1.1.3 Functional Classification

1. Engineering infrastructure

    a. Energy facilities

Energy facilities include the facilities for the production, storage, transmission, reception and conversion of gas, heat and electricity, and the related ancillary facilities (Standardization Administration of China,2019).

b. Water supply and drainage facilities

Water supply and drainage facilities include:

i. Water supply facilities: facilities for the collection, transmission, and distribution of water resources;
ii. Drainage facilities: facilities for the collection, conveyance, treatment, regeneration, and discharge of sewage and rainwater (Standardization Administration of China,2019).

    c. Transportation facilities

Transportation facilities include:

i. Air transport facilities: urban airports, urban helipads, etc.;
ii. Water transport facilities: ports, piers, waterways and transport facilities at sea or on inland rivers;
iii. Rail transit facilities: lines, stations and ancillary facilities for intercity and municipal traffic;
iv. Road traffic facilities: highways and urban roads, stations, parking lots and ancillary facilities (Standardization Administration of China,2019).