New Digital Smart Town Construction Concept

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Abstract

Smart towns are constructed through advanced technologies such as the Internet of Things, cloud computing, remote sensing, global positioning, virtual reality, heterogeneous heterogeneous data integration, etc., in terms of information perception, intelligent analysis, post-operation, information interconnection, management decision-making, etc. Smarter towns. The new smart towns are constructed with towns as the object of construction and people as the objects of service. Through the ubiquitous intelligent infrastructure with communication technology as the core, the precise mapping and real-time feedback of physical towns and digital twin towns are constructed to realize the synchronous operation of physical towns and digital twin towns, Convergence, and mutual cooperation, support the smart decision-making of urban governance and regional economic development, promote the sustainable development of the ecological environment, and the equal and convenient full coverage of public services, so as to build a new path, new model and new form of new urbanization development.

Keywords

Diagnosis Platform, New smart town, Big data.

1. Introduction

The high-quality development of China's new-type urbanization is centered on the urbanization of people, with the fundamental goal of achieving the overall development of people, the overall progress of the society, and the common prosperity of the people, and the organic integration of urban development and industrial support, population agglomeration and livability and work , To promote the intensive and high-efficiency production space, the proper livability of the living space, and the beautiful ecological space. The new smart towns take people as their service targets, and are in the same line with the high-quality development of new urbanization "people as the core"[1-2]. The new type of smart town adheres to the original intention of people-oriented construction. It is not a simple construction of new intelligent infrastructure, nor is it a simple construction of several information systems to help process reengineering, but to allow every main body of work and life in the town to participate more in the new type of wisdom The construction of cities and towns is coming, and at the same time, it will be more convenient and more comfortable to enjoy the fruits of urban smart construction, making work, life and environment better, making cities and towns an ideal residence for residents to work and live[3].

2. The construction concept of a new smart town

The external manifestation of the new smart town is the extensive use of a new generation of information technology. Its fundamental internal construction concept is still people-oriented, and the construction is based on the organic unity of people and cities, people and society, people and nature,

and people and the future [4]. It will be advanced the integration of information technology and the people-oriented construction concept, through the construction of more convenient, efficient and flexible application systems, continue to provide residents with high-quality public services.

The new smart town embodies the "people-oriented" construction concept in promoting the design and construction of innovative institutional mechanisms and institutional environments, attracting broad participation of the masses, gathering the wisdom of the masses to the greatest extent, and allowing residents to become the main body of the planning and construction of the new smart town [5].

The construction of new smart towns involves all aspects of production, life and urban governance. Therefore, it is necessary to uphold the concept of "open and inclusive" construction, establish pragmatic and efficient cooperation mechanisms and platforms, and actively carry out extensive, in-depth, and efficient cross-industry innovation cooperation [6]. Wisdom jointly empowers high-quality urban development.

A new type of smart town is a new type of town characterized by innovation, which is reflected in technological innovation, system innovation, application innovation, etc. More talents will continue to gather in the form of innovation and entrepreneurship. Therefore, the concept of "open and inclusive" construction should also Throughout the cultivation process of new technologies, new things, and new business forms, trial and error are encouraged and failure tolerated [8]. Following the concept of openness and inclusiveness, the new smart towns will introduce ecological partners and innovative and entrepreneurial talents in industrial development, government services, security, transportation, medical and other fields to create more application scenarios and continuously enrich the development form of new smart towns [9].

3. Environmental Intelligent Monitoring and Diagnosis Platform

From the "characteristics of environmental monitoring in the era of big data", "requirements for environmental monitoring data at present and for a long period of time in the future," "supporting role of information technology", "key parameters and state quantities that conventional monitoring instruments should have", and "monitoring points" Environmental parameters that should also be possessed". Big data has the characteristics of large-scale, diversified, rapid, and value-oriented. The characteristics of environmental monitoring in the era of big data should be comprehensive deployment, nationwide networking, integration of various data resources, real-time monitoring, data storage, information sharing, and models Analysis, water quality warning, etc. The era of big data puts forward higher requirements for the completeness of monitoring instruments and the advanced nature of monitoring methods. Compare the methods of water quality analysis and analyze the water quality prediction model. Currently and for quite a long time in the future, there are three requirements for environmental monitoring data to be "true, accurate and comprehensive". At present, the informatization of the whole process of automatic monitoring of water environment is the starting point, and the supporting role of informatization technology is proposed. At present, the need to achieve full informatization is still the goal pursued by the industry, but it is undeniable that informatization technology has undertaken control, collection, sorting, analysis, judgment, release, and display in the field of automatic water environment monitoring. The improvement of information technology in the field of automatic water quality monitoring is an inevitable trend of development [10].

The use of sensors and software to control agricultural production through a mobile platform or a computer platform makes traditional agriculture more "smart". In addition to precise perception, control and decision management, in a broad sense, it includes agricultural e-commerce, food traceability and anti-counterfeiting, agricultural leisure tourism, agricultural information services, etc. Fully use the achievements of modern information technology, integrated application of computer and network technology, Internet of Things technology, audio and video technology, 3S technology, wireless communication technology and expert wisdom and knowledge to realize agricultural

visualized remote diagnosis, remote control, disaster warning and other intelligent management. The advanced stage of agricultural production is the integration of emerging Internet, mobile Internet, cloud computing and Internet of Things technologies, relying on various sensor nodes (environmental temperature and humidity, soil moisture, carbon dioxide, images, etc.) deployed in agricultural production sites [11]. The wireless communication network realizes the intelligent perception, intelligent early warning, intelligent decision-making, intelligent analysis, and expert online guidance of the agricultural production environment, and provides accurate planting, visual management, and intelligent decision-making for agricultural production. Cloud computing, sensor network, 3S and other information technologies are comprehensively and comprehensively applied in agriculture to achieve more complete informationization basic support, more thorough agricultural information perception, more concentrated data resources, and wider interconnection [12]. More in-depth intelligent control, more intimate public services.

4. Smart community

Smart community refers to the maximum use of Internet information technology, so as to integrate several systems such as residential quarters, property management units, community social medical security, community services to residents, Internet electronic sales, broadband, and mobile network communications [13]. Pinch together, in an extremely efficient network system, create a safe community, high-efficiency community, livable community, and complete living conditions for residents, and realize intelligent living, intelligent service, and intelligent network system, is an efficient and intelligent community based on the intelligence of a wide range of information services. A new concept of community management is a new model of social management innovation under the new situation. Make full use of the Internet and the Internet of Things, involving smart buildings, smart homes, road network monitoring, personal health and digital life and other fields, and give full play to the advantages of the developed information and communication (ICT) industry, and excellent telecommunication services and information infrastructure. Through the construction of ICT infrastructure, certification, security and other platforms and demonstration projects, the rapid development of key industrial technologies, the construction of a smart environment for community development, and the formation of new life, industrial development, and social management models based on massive information and smart filtering processing. Build a new community form [14].

Intelligent video surveillance system the video surveillance system is composed of a video surveillance system based on network camera + switch + network hard disk video recorder storage + video surveillance platform management. The system covers the project's outdoor vehicle entrance and exit, outdoor parking area, outdoor public activity area, and outdoor perimeter (Linked with the alarm), basement entrances and exits, basement vehicle passages, basement and first-floor unit halls, elevator cars, roof exit passages, commercial public areas and other locations are set up, through indoor video viewing, to achieve humanized care in the park Features.

According to the vehicle flow direction and parking zone requirements of the project, set up barriers at the entrances and exits of the park vehicles, and set up guard booth management at the exits. Vehicles of owners and visitors are authenticated by license plate recognition, and all entrances and exits are connected to the Internet; the entrance and exit of the underground garage are equipped with incoming car reminders Function, a humanized light-on reminder (or can be combined with an electronic display), and a vehicle restriction reminder is set at the exit of the warehouse to reduce the occurrence of unexpected situations. People and traffic management in underground garages, and traffic management in clubs and shops should be combined with traffic flow lines to reasonably set up video and access control systems to facilitate the management of outsiders. The entrances and exits are also integrated with an access control system to identify visitors to facilitate registration, card sending and receiving, and charges [15].

5. Outlook

There are also big differences in the development level and positioning between 20,000+ cities and towns in China. The smart construction of cities and towns cannot be "one thousand cities". It must be based on the existing population size, economic and cultural development level of the town, combined with regional development and characteristic industry positioning. In different dimensions, the staged tasks and goals for the construction of new smart towns are formulated at different levels, which has important practical significance for improving the applicability of the construction plan, the investment value and the good experience of residents.

New smart towns pay attention to and based on the needs and challenges of China's urban development, and are gradually becoming a new space and new field for the construction of new smart cities in my country. While relying on a new generation of information technology to promote urban construction, they will surely adopt sophisticated design and operation to match the development needs and pain points of each town. Therefore, in the promotion of the construction of new smart cities by classification and classification, the new smart towns are practicing this important concept from the outside and the inside.

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