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Study on Development and Utilization of Underground Space in Linyi's Smart City

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Abstract: The construction of underground space of intelligent city can improve the efficiency of service-oriented government, improve the urban ecological environment and demand of "intelligent and efficient, environmental intensive and low-carbon ecological".The paper firstly introduces the development of underground space in Linyi Smart City. Secondly, the problems in the development of the underground space in Linyi Smart City are analyzed. Finally, the author puts forward some Suggestions on the development and utilization of underground space in Linyi Smart city, so as to promote the sustainable development of Linyi to the eco-type and economical Smart city.

Keywords: Smart City; Urban underground space; Development and utilization

Introduction

Through the reasonable and effective development and utilization of urban underground space, it can alleviate city's contradictions that the space is crowded, urban environment worsening, and urban green space is becoming increasingly famished caused by the sharp rising urban population. Research on the development and utilization of Linyi Smart City underground space can promote the rapid development of Linyi city, promote the integrated development of land space and underground space, and improve the function of underground space.

1. The status quo of development and utilization of underground space in Linyi city

Like other cities, the development of underground space began in the underground civil air defense in Linyi, and in recent years, it has entered a period of comprehensive development and utilization. At present, the development of underground space is relatively simple in Linyi, but it has diversified development trend. The main types of development in Linyi city are underground commercial, underground disaster prevention, underground municipal public and underground transportation.

1.1 Underground security facilities in linyi city

Linyi city underground security facilities mainly for public civil air defence engineering construction. These facilities are used as a place for commercial and recreational activities and as a refuge for the masses during wartime.

Urban security platform is an important part of smart city's overall plan, and it is a set of perfect management system of underground fire control.The smart city security system completes fire monitoring and fire extinguishing rescues through sensors and field control systems.It is of great significance to establish a modern security service market, to save social resources, promote employment, protect the lives and property of the people, and promote the development of innovative own intellectual property rights.

1.2 Underground public facilities in Linyi city

Information management system has been completed, and the construction of the "four horizontal and two vertical" comprehensive pipe corridor system will be guided.In the future development, we should attach importance to the construction of pipeline management information system and update the basic data in time.

Building intelligent network system in the city, the first to based on the underground pipe network survey, enter the name of the street, the street all kinds of underground pipeline information such as the diameter, material, in the form of 3 d images set underground pipeline information data acquisition, data library building, dynamic update, integration of the business, management, supervision of examination and approval, to build a expert system for spatial decision support and comprehensive analysis ability of urban comprehensive underground pipeline information system.

1.3 Underground transportation facilities in Linyi city

Underground transportation facilities are mainly embodied in three aspects: underground parking, underground traffic tunnel and rail transit route planning.

Along with the science and technology, the continuous development of Internet and Internet technology, the future will be to develop in the direction of intelligent parking, linyi can develop the mechanical parking and equipment maintenance, operation and management are intelligent.To establish a real-time accurate, safe and high integrated traffic management and control system, to realize the urban traffic system intellisense. Its contents involve the automatic control of rail transit, safety supervision, green energy

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saving and advanced communication.

2. Problems existing in the development and utilization of underground space in Linyi Smart City

2.1 Lack of coordinated planning on the ground

Linyi city lack of floor space and underground space resources planning and coordination between the ground and underground space development, has certain influence on the three-dimensional development of Linyi city. Especially three-dimensional parking lot should be gradually incorporated into the city construction planning, the government should be early intervention, plan ahead, pushing city stereoscopic parking construction and development, through the corresponding policies, the government, enterprises and individuals working together to solve the parking problem.

2.2 Backward demand for underground space development, uneven development between urban areas

At present, with the rapid extension of Linyi city, increase the capacity of underground space is difficult to meet their needs, on weekends or holidays in the heart of downtown shopping, leisure, visit places, the difficulty of parking is still prominent. Because there is no underground transportation system to share the problems of the distribution of people's cars, the traffic jams in the traffic jams are still very serious during the morning and evening rush hours.

The construction of underground space is not balanced in the development of Linyi city. The current development of underground space in most major country-specific ones in new district of downtown area and south fang, the underground space construction of country-specific ones area alone to about a quarter of the total, in Hedong district and other relative development is less.

2.3 Lack of a unified platform for information.

Linyi city has yet to establish unified integrated underground space information platform, for a long time, all departments have the information for the underground space resource neither unicom or sharing some information data is just stay on the drawings, charts, not yet, observes, the planning, construction and management of underground space caused serious influence.

3. Countermeasures for development and utilization of underground space in Linyi city

3.1 The planning of underground space is incorporated into the overall urban planning

In order to develop and utilize underground space scientifically and orderly, the planning of urban underground space should be included in the overall planning of the city. Of urban underground space to achieve unified planning, comprehensive development and rational utilization, management one-stop construction in accordance with the law, coordination of the relationship between the underground space planning and relevant planning, but also improve the space planning management system, make Linyi city underground space development and utilization and the social, economic and environmental coordinated development of the city.The intelligent sensor is embedded into various objects such as power grid, road and pipeline, and its universal connection is connected to the Internet of things, which is comprehensive, demand oriented, fully integrated and coordinated.

3.2 Strengthen the standardization construction of underground space development and utilization

Because of Linyi in each development imbalance between urban underground space construction, so in drawing up urban underground space development and utilization planning of the region, to pay attention to balance the construction of the urban underground space area. As a unified management organization, we should promote the standardization of development and utilization of underground space. First of all, we need to improve the standard of underground space planning and design, and revise and improve the construction standard of underground space. Secondly, we should improve the capacity and system of underground space engineering technology research and development, and strengthen the construction of related majors in underground space. In order to promote the development and utilization of underground space, the development and utilization of underground space in Linyi will be standardized.

3.3 Establish an underground space resource development information system

Strengthen the development of underground space resource information system establishment, is the basis of strengthening the underground pipeline management work, but for underground pipeline laying, maintenance, repair and other work to provide information and technical support.In order to establish an information system for underground space resources development, we should ensure the source of information security, reliable and comprehensive, timely process and feedback.

Conclusion:

Wisdom city construction to realize sustainable development of linyi city, leading information technology application, urban comprehensive competitiveness and effectively promoting the healthy and harmonious sustainable development of cities has great strategic significance.

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