Application of electronic information technology in building intelligent engineering

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Abstract: In the information age, the application of electronic information technology in intelligent building engineering is an effective means to improve the construction efficiency, and also provides a solid guarantee for promoting the development of intelligent building engineering. This paper first briefly describes the concept of electronic information technology and building intelligent engineering, after looking for the electronic information technology in the building intelligent engineering application of the key focus of in-depth exploration of electronic information technology in the building intelligent engineering application of effective strategies, in order to achieve the intelligent and sustainable development of the building industry to make contributions.

Key words: Electronic information technology; Intelligent building engineering; Application

Introduction

Intelligent building engineering has obvious comprehensive and complex characteristics, with the rapid development of science and technology in our country, electronic information technology is widely used in intelligent building engineering, which lays a solid foundation for the intelligent development of building engineering. In this paper, the effective application of electronic information technology in intelligent building engineering has been deeply explored, in order to optimize the efficiency of building operation while improving the user experience, and at the same time to enhance the environmental protection of the building and promote its sustainable development.

I. Overview of electronic information technology and intelligent building engineering

1. Electronic information technology

Electronic information technology is the inevitable product of the development of modern technology, which helps to promote the vigorous development of China's communications industry, and at the same time, it has constantly made great contributions to the innovation of technological level. The carrier of electronic information technology is electronic equipment, and the core is information processing and communication. As one of the advanced technologies, electronic information technology can efficiently realize information collection, transmission, storage, processing and application. It is precisely because of the rapid development of the technology and its wide application in life, people's living standards can be greatly improved. Electronic information technology involves a wide range, digital signal processing technology, digital circuit technology, microelectronics technology, computer technology, analog circuit technology, network technology, communication technology and so on belong to its technical category. Nowadays, electronic information technology has been widely used in many fields, from the daily life of mobile phones, TV, computers and other electronic products to military, aerospace, national defense and other high-end fields, are inseparable from the support of electronic information technology. The characteristics of electronic information technology are as follows:

First, it is convenient and intelligent. The application of electronic information technology, promoting more and more industries continue to develop in the direction of intelligence, coupled with the popularization of simulation technology, the intelligent characteristics of system operation are more and more prominent. Second, efficient automation. Electronic information technology can realize the integration with a variety of technologies, has a strong functional expansion, is conducive to more fields of scientific research to provide advanced technical support, and then enhance the degree of scientific technology and automation.

2. Building intelligent engineering

Intelligent building engineering, in short, is the application of electronic information technology in all stages of building design, construction and use, so that the building has intelligent capabilities, including but not limited to automatic control, remote monitoring, information management, etc., to provide users with a safer, more efficient and more intelligent living experience. Compared with foreign countries, domestic electronic information technology and construction industry integration research started late, even so, our country in recent years on this aspect of the research has obtained remarkable results. Under normal circumstances, intelligent building engineering mainly involves building automation system, building communication system, building TV monitoring system and building security system four aspects, by giving full play to the communication technology, computer technology and other respective advantages, the current construction project has basically achieved information intelligent management, management efficiency and management effect have been significantly improved.

II. The focus of electronic information technology in the application of intelligent building engineering

1. Improve the construction efficiency of building projects

The traditional building construction method has low efficiency, and more importantly, there are often mistakes in the construction process, resulting in a long project cycle and high cost. In addition, the traditional hand-drawn design mode further increases the uncertainty

faced by the construction of construction projects. On the one hand, it increases the cost, and on the other hand, it can not ensure the accuracy of construction projects. Nowadays, the construction difficulty faced by construction projects is gradually increasing, and the traditional management mode is bound to be no longer applicable, which may also lead to a series of safety problems. At this time, the application of electronic information technology can fundamentally solve the above problems. For example, with the help of BIM building information modeling technology, construction personnel can carry out simulation exercises through computers before construction, further find problems and solve them in advance, which is conducive to greatly improving the construction efficiency and accuracy of the project.

2. Strengthen the coordination within the project

With the increasing complexity of construction projects, in order to ensure the overall quality of the project, it is necessary to accurately connect the information of various links such as design, construction and supervision, and fundamentally avoid the appearance of information asymmetry and poor communication. With the help of electronic information technology, the person in charge can create a platform for information sharing in each link, so that each link personnel can grasp the project progress timely and accurately through the platform, build a platform for communication between people, and improve the efficiency of information circulation by strengthening the internal coordination of the project.

3. Assist in collecting and summarizing engineering information

As far as intelligent building engineering is concerned, a large amount of data and information will be generated every day or even every moment, which directly reflects the current operating status of construction projects. In the past, the collection and summary of engineering information generally relied on manual work, which was not only inefficient, but also easy to make mistakes. With the strong support of electronic information technology, construction units can automatically collect and summarize engineering information with the help of big data, Internet of Things, etc., which is conducive to greatly improving the efficiency and accuracy of information processing. For example, with the help of various types of drones and sensors, real-time collection of construction site environment, equipment, personnel and other information, and then rely on big data technology to analyze and sort out the collected information, to provide accurate basis for engineering decision-making, to ensure that intelligent building engineering is more convenient and efficient.

III. Effective strategies for the application of electronic information technology in intelligent building engineering

1. Build smart construction sites to improve the level of construction site intelligence

Creating a smart construction site is an intuitive manifestation of the application of electronic information technology to intelligent building engineering. On the one hand, it is conducive to improving the efficiency and scientificness of the overall management and control of the project. On the other hand, it is also conducive to reducing construction costs, ensuring construction safety and achieving the goal of green construction. Based on this, from the perspective of the construction unit, it should be combined with the actual situation, starting from the actual needs of the project, relying on electronic information technology to create a diversified and intelligent information system, such as engineering material quality management information system, engineering measured real quantity management information system, visual safety management information system, etc., which is more convenient for targeted management of each link in the construction process. At the same time, to achieve the construction site personnel, construction machinery and equipment, construction methods and construction materials and other aspects of intelligent control. In addition, in order to improve the construction quality, the construction unit should also rely on the Internet of Things technology to fully create a dynamic monitoring model, aiming to comprehensively count and analyze the data of different dimensions of the construction site with the help of a unified management platform, so as to provide strong data support for construction decision-making. For example, through real-time monitoring of the operating status of construction equipment and facilities, timely understanding and grasping the operating status of each machine, more importantly, intelligent assessment of the deployment and utilization rate of construction operations, at the same time, with the strong support of the information platform, the construction unit can also comprehensively count all kinds of information on the construction site, such as construction personnel information, construction progress, and so on. Truly form an intelligent control system closely linked with links, and finally realize the effective application of electronic information technology in intelligent building engineering projects.

2. Strengthen information construction and build intelligent building structures

The outstanding feature of intelligent building project is that the building has strong intelligent characteristics, from this point of view, in the process of construction and construction to improve the intelligent building, information level is very important. In order to achieve this goal, intelligent building engineering should fully promote the application of automated information system, on the one hand, pay attention to the improvement of the automation level of the equipment itself, on the other hand, the overall design of equipment automation system, at the same time, from a number of links to control, and strive to create intelligent building structure. Specifically speaking, first of all, for the lighting system, intelligent building engineering should adopt advanced intelligent lighting control system, that is, the system can automatically adjust the brightness and switch state of the lighting equipment according to the use of the building and the change of environmental light, in order to achieve better energy saving effect, for the construction personnel and later residents bring more comfortable experience. Secondly, for the image monitoring management system, intelligent building engineering should adopt advanced video surveillance system, give full play to the advantages of high-definition cameras, with the help of intelligent analysis algorithms to achieve real-time monitoring of each area of the building for the purpose of timely detection of abnormal situations and targeted treatment of problems. In addition, with the strong support of cloud storage and remote access technology, the purpose of centralized management

and sharing of monitoring data is realized to ensure that the building is always in a safe construction environment. Of course, the intelligent building project can also establish a unified equipment interface standard and data exchange protocol, in order to achieve seamless docking and collaborative work between different equipment, and greatly improve the quality of construction.

3. Intelligent management and maintenance to improve the safety performance of intelligent building engineering

Intelligent management and maintenance is the primary task of building engineering. Especially for modern buildings, in the construction process, should always follow the people-oriented construction concept, on the one hand, building projects should ensure to bring higher comfort for users, improve the overall quality of system application, on the other hand, should also comprehensively improve the safety performance of intelligent building engineering. In order to achieve the established objectives, the construction unit can achieve the purpose of comprehensively guaranteeing the safety of the building by creating the intelligent management and safety maintenance system of the system. First of all, make full use of electronic information system is the key, by creating a complete closed-circuit monitoring system, is conducive to realizing the purpose of monitoring buildings without dead corners. Specifically, the construction unit can use the intelligent camera, intelligent electrification system and other equipment all-round, multi-angle record, collection, transmission and building related information, in order to achieve the purpose of real-time monitoring and management information, especially in the case of special circumstances through automatic patrol and alarm function to protect the safety of personnel and equipment. In the construction of access control system, electronic information technology can give full play to its advantages, through the face recognition and other functions to assist, the unauthorized personnel are isolated outside the building, so as to ensure the internal security of the building. For the fire alarm system construction, based on the electronic intelligent technology to build the fire alarm security system will play a full role, through the installation of smoke sensors and temperature sensors and other equipment, conducive to the relevant personnel real-time monitoring of the fire inside and outside the building and temperature changes, once the abnormal situation, the system will automatically open the alarm function and take the corresponding preventive measures, This will help effectively protect the quality of intelligent building projects.

4. Build an intelligent communication system to improve information processing efficiency

Communication system is one of the important components of intelligent building engineering, in order to comprehensively improve the efficiency of information processing, it is particularly critical to build intelligent communication system. First of all, strengthen the private network Settings, from the actual needs of construction projects and the specified functions of the private network carefully layout, to ensure the quality and efficiency of information transmission. On this basis, the construction project should also plan the business network and internal network as a whole, in order to establish a systematic and perfect network system. Among them, the business network can be applied to the wired local area network of the building to meet the operation requirements of the private network. In addition, intelligent building engineering should also pay attention to the application communication configuration, aiming to improve the security and reliability of the building management system in an all-round way, and ensure the privacy and stability of information control, which is the necessary support for the operation of intelligent building engineering projects.

Epilogue

All in all, the comprehensive application of electronic information technology in intelligent building engineering is an inevitable trend of the development of the construction industry, and it is also a fundamental measure for the construction industry to move toward intelligence and information. In this context, the construction unit should actively explore the electronic information technology in the building intelligent engineering in a wider range of application ways and effective measures, really for the prosperity and development of China's construction engineering cause to make greater contributions.

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