The Key Problems of Intelligent Quality Control of Green Building are Analyzed Based on Computer Information Data

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Abstract. The development of computers has revolutionized the way we work. At the same time with the development of China's economy, China's construction industry has entered a period of rapid development. In terms of the economic contribution rate of various industries, in China's economy, the development of the construction industry accounts for a large part of the output value, but it has brought huge economic benefits, but also caused a series of environmental problems and construction safety and quality problems, which have seriously affected people's quality of life and the safety of life and property. This paper USES the computer information data technology to carry on the strict evaluation and control to each part of the building structure. So that it can effectively avoid security and other issues.

Key words: Green Building, Construction, Quality Control, Computer Information

Although everyone yearns for an intelligent life, if it needs to be built on a larger amount of energy consumption, we have to pay a greater use cost for it, which is not what we want. The house is the carrier of intelligent residence, and the computer system is the center of intelligent residence. The perfect combination of the two will make our life mode change essentially, but the premise is that the combination must be green, low-carbon and energy-saving. The intelligentization of green building is inseparable from the application of various new technologies and equipment, which are interdisciplinary and interdisciplinarity. How to realize the coordinated operation of various systems, equipment and technology is a big challenge. For this reason, some experts pointed out that in the early stage of design, the intelligent green building should be jointly participated by relevant units and designed as a whole[1].

1. Improving building energy efficiency by intelligent means

Some experts pointed out that green building is a complex system compared with ordinary buildings, which not only requires higher energy consumption and efficiency of lighting, air conditioning and other
systems, but also uses renewable energy systems such as solar energy and heat pump. The superposition of energy-saving equipment and products does not necessarily lead to the reduction of building energy consumption and the improvement of energy efficiency. The key lies in the matching and coordinated operation of each system. This requires the use of modern scientific and technological means to replace the traditional manual methods, to help people grasp and judge the energy consumption of buildings in real time.

Using intelligent technology in green building can not only monitor and control the operation of power transformation and distribution, lighting, cold and heat sources, air conditioning, water supply and drainage, transportation and other systems in the building, but also improve the safety of the building.

Building intelligent technology is the technical guarantee of green building. Only through real-time operation data to analyze the efficiency and defects of building energy conservation and environmental protection, can the building performance be improved. Intelligent system affects the overall effect of green building operation. For example, intelligent technology can optimize the operation control and management of renewable energy system; reclaimed water and sewage treatment and reuse system can ensure the effective utilization of water resources and minimize the pollution of human activities to water resources through intelligent automatic control system. Adopting intelligent technology means can realize the quantification and refinement of property management, and ensure the safe, comfortable, efficient, energy-saving and environmental protection operation of buildings. 2008-2016 national cumulative green building evaluation mark project refer to figure1.

![Figure 1. 2008-2016 national cumulative green building evaluation mark project](image)

2. **Infinite circulation mode is the way of green building**

Green building should not only be strictly controlled in the early planning and construction stage, but also be energy-saving and low-carbon in the later management and use. When we talk about green building technology from the perspective of science and the scale of human survival environment, operational data is the basis, and effective access to operational data requires intelligent systems. From measurement data, data visualization, effect evaluation, data analysis, design improvement scheme to implementation improvement scheme, a cycle of green building energy efficiency improvement is formed. After the first cycle, you must return to the measurement data to start the second cycle. Energy saving and low carbon of green building can only be realized through this endless cycle.
The function of the building will be adjusted, the load of each system will be changed due to the different use functions, and the use of each equipment system will also be aging. Therefore, in each cycle, there are always found a variety of situations and problems, and the system needs to be continuously optimized and improved in order to improve the performance of the building and equipment system.

Green building can't put forward the slogan energy-saving goal, but it should apply the intelligent technology to solve the problem of ecological energy-saving and residential comfort, and provide comprehensive technical support for the realization of the goal of green building.

3. Sustainable intelligent system development stage

Today's society emphasizes green and low-carbon living environment. The combination of intelligent building and green building is not only the basic requirement of sustainable development, but also the inevitable direction of intelligent development of modern buildings. The so-called sustainable intelligent technology means that green buildings have the characteristics of sustainable development, and the technology it advocates conforms to the principle of sustainable development. The sustainability of building intelligence requires that in the planning, design, development, use and management of intelligent building, we must adhere to the concept of green building, use water and other resources more effectively, reduce the damage to the environment, and provide users with a healthy and safe living and working environment. Intelligent and information systems are introduced into green buildings. Their configuration focuses on both the present and the future, that is, to meet the requirements of the principle of openness. They have adaptability and compatibility for adding or updating equipment in the system, leading, expanding and flexibility. 2001-2016 national cumulative green building area refer to figure 2.

![Figure 2. 2001-2016 national cumulative green building area](image)

4. Application of sustainable intelligence in green building

Green building emphasizes not polluting the environment, saving energy, maintaining ecological balance and reflecting the strategic idea of sustainable development. Energy conservation and environmental protection is the purpose of green buildings, and building energy consumption usually refers to the energy consumption of buildings in the use process, including cooling, heating, hot water,
lighting, cooking, elevator, electrical power consumption, cleaning power consumption, sewage, etc. In order to save energy, the new automation and intelligent technology is used in green building. The "wisdom" of intelligent system is used to reduce energy consumption to the maximum extent[3]. The sustainability of building intelligent technology meets the requirements of the principle of openness. It has adaptability and compatibility for adding or updating equipment in the system, leading, expanding and flexibility. It is applied to intelligent lighting system, air conditioning, ventilation, refrigeration, heating intelligent system, elevator group control system, etc.

As a system engineering, sustainable intelligence in the application of green building includes many kinds of technology, complex equipment and devices, crisscross network. Sustainable intelligent system contains many word systems in the practical application of green building. For example: green energy power generation and distribution monitoring system; indoor environment intelligent control system; water monitoring system; intelligent security system; furniture intelligent system; office automation system; information network system, etc.

5. Strategy of building green and intelligent

The architectural platform is not a new concept, it is a certain position and space for each specialty to meet the use function of the building itself.

5.1. Training professionals

But with the progress and development of science and technology, many new technologies are applied to architecture, which is bound to put forward higher requirements for architects. For a good intelligent building scheme, the architect has fully considered the requirements of professional intelligent system of various equipment on the basis of giving full play to his own architectural creation ability and inspiration. Otherwise, in the process of implementation, there will be a lot of even greater changes[4]. Therefore, the development of green intelligent building puts forward new requirements for architects. In order to meet these requirements, architects need to constantly understand and master some specific requirements of various disciplines in the design of green intelligent building, so as to consider from the initial stage of the design scheme and arrange the space that can meet the requirements of various disciplines.

5.2. Focus on building economy

At present, intelligent building must conform to the development law of market economy. In the past, people paid more attention to the advanced nature of green intelligent buildings and seldom considered their economy. Building green intelligence should be related to economy. At present, the index of information society in China is too few and the quantitative analysis is not enough. In concept, our country is not backward, but in project management and technical implementation, there are relatively large defects. There are too many qualitative factors and too few quantitative factors in project implementation.

5.3. Strengthen the self-discipline of green intelligence.

At present, the competition in the intelligent building market is extremely fierce and the market is chaotic. Disordered competition and vicious competition have caused adverse effects. Winning the bid
at a low price has reduced the quality of intelligent system engineering. The State shall formulate countermeasures as soon as possible to stop this chaotic situation and set aside a reasonable profit for the contractor, which is an effective means to ensure the quality of the project.

5.4. Management shall be detailed.

The intelligence of green intelligent building is determined by many factors. The work quality of construction units, construction units, property management companies, system integrators and other units will have a certain impact on the engineering quality of intelligent buildings. Straighten out the relationship between these departments, subdivide the responsibilities, and manage the green intelligent building projects scientifically\(^5\).

5.5. Principle of development.

First of all, green intelligent building should fully reflect the idea of "people-oriented", and the ultimate beneficiary of intelligent building should be the people who live and work in it. The degree of green and intelligent of a building can't all depend on the advanced level of equipment, but mainly depends on the user's demand function. Under the condition of resource exhaustion, large population and serious environmental pollution, energy conservation has become the primary problem of sustainable development. Green intelligent building should reflect the utilization of various clean and renewable energy, such as daylighting, natural ventilation, solar energy, thermal energy, wind energy, biological energy and geothermal energy, etc.; it should reflect the efficient lighting of energy conservation; at the same time, it should also save other energy, save wood and water, and be able to reuse some old building materials, structural accessories, equipment and recycled renewable materials Follow the principle of sustainable development.

6. Conclusion

Intelligent building is the technical support of green building. Green building is the goal of intelligent building. Green building and intelligent building are the pursuit of modern building in two different aspects. Therefore, combining intelligence with green, promoting green building with intelligence, promoting intelligence with green concept, reflecting the safety, comfort, energy saving and pollution reduction of modern living environment Face to face. In the long run, it not only meets the needs of people-oriented and sustainable development of buildings and cities, but also enriches, improves, renews and expands traditional buildings\(^6\). Only by combining the two concepts of green building and intelligent building, i.e. adhering to the concept of green intelligent building, can we truly achieve the goal of sustainable development. Therefore, sustainable intelligent system will be the development direction of intelligent technology.

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