

platform to simulate capital curve for progress payment analysis, allocate funds reasonably, and save capital cost to the maximum extent. Use the BIM5D+BIM cloud to conduct a comprehensive cost analysis, and first synchronize the data in the BIM5D to upload it to the BIM cloud space, so that the cost of the entire project can be viewed and analyzed in the BIM cloud space.

3.2. Video Surveillance

Combined with the construction status of construction projects, it can be seen that most construction enterprises usually use video surveillance technology in engineering projects, and actively introduce BIM technology in the construction stage, which can provide technical support for the development of engineering inspection operations, so that staff can fully grasp the project situation.

Starting from each construction area, promote the full implementation of monitoring operations, based on the technical background of the smart site, when monitoring the construction site of the construction project, you can use the form of remote video surveillance, starting from the interior and exterior of the construction area, and promote the simultaneous implementation of the construction of the monitoring room when setting up facilities such as cameras.

Construction personnel can use mobile phone software or computer programs to promote real-time monitoring operations according to the overall situation of the construction site with the assistance of information technology.

For example, for a highway construction operation, the construction enterprise can obtain various construction points from the model in the reasonable application of smart site technology, and analyze the specific situation of the construction location with the help of video surveillance information in the monitoring link, control the overall construction progress of the project, and obtain data information related to the project quality.

3.3. Node Deepening

First of all, it is necessary to combine the design drawings of the engineering project to promote the development of the analysis. For the engineering content involved in some nodes, due to its complex characteristics, BIM technology needs to be used to promote the development of modeling.

Secondly, when applying the software model, it can analyze the relevant complex construction nodes based on the deep-level perspective. For example, in the construction project, the technical node of the steel frame needs to be involved, and technicians are required to promote the simultaneous implementation of analysis and processing in the process of establishing the model.

Thirdly, the key nodes in the model should also be marked, such as the collision point of steel bars, etc., to provide convenience for construction personnel, so that they can clarify the overall layout of steel bars, and put forward structural optimization measures in time.

Finally, when the template support structure is simulated, the design of the structure can be analyzed, and the construction personnel can be provided with convenient support in the removal of safety risks, optimize the construction quality of the template support structure, and ensure the safety of the construction personnel.

3.4. Material Control

For the traditional form of site management mode, construction enterprises in some cases, will encounter the same problem, not only cannot be properly kept for construction materials, but also difficult to increase the control of engineering equipment.

Under normal circumstances, the technical department needs to provide the corresponding material plan in a timely manner according to the construction needs of the construction project, and the procurement department is responsible for purchasing the corresponding construction materials in accordance with the plan. After the construction materials are delivered to the procurement department, the relevant personnel of the procurement department shall receive them in time.

However, in this kind of link, it is easy to have problems such as substandard material quality, or the timeliness of material delivery cannot be guaranteed, thus delaying the construction period.

Therefore, in the process of introducing BIM technology, construction enterprises can track and manage the procurement and introduction of construction materials in a whole-process manner, and increase the control of construction materials to promote the all-round implementation of monitoring operations. During this period, enterprises can use the form of bar codes to assist the development of electronic identification tasks, according to the material procurement process, to ensure the continuity of the tracking link, and to ensure the effectiveness of engineering facilities tracking operations.

Under the function of the material control platform, it can provide convenience for managers, so that they can fully grasp the purchase situation of various materials and substances from a comprehensive perspective, and analyze the overall reality of various materials and substances entering the construction site.

3.5. Collision Check

During the installation of pipelines and lines, the construction personnel need to make clear requirements. When the cable slots are reserved, the hole reservation should be synchronized to reduce the occurrence of collisions during the installation of electrical equipment.

In order to effectively avoid the collision problem of electrical equipment, it is usually started from the completed wall or floor, and the second excavation is carried out. Under the action of this kind of method, it provides technical support for the development of collision problem processing. However, in practice, due to the diversity of pipeline Settings, it provides the possibility for pipeline crossing problems, and the complexity of operation is relatively high, and the occupied space area is gradually expanded.

To this end, in the process of using BIM technology, relevant personnel can use it as a basic reference according to the content of the design drawings. Based on the accurate Angle, the task of building model construction is completed. In the construction process of the three-dimensional model, the actual construction situation is comprehensively observed, the actual reserved hole location is found out, and the construction personnel is notified as soon as possible, so that the construction personnel can reserve the hole in advance.

In the process of using BIM technology, with the establishment of the building model, it is closely related to the overall structure of the electrical equipment. At the same time,

it is also necessary to promote the operation task of the model assembly and find out the location of a collision node to ensure the accuracy of the node analysis.

When analyzing construction design drawings, designers need to optimize and improve the drawing information, which can increase the prevention of rework problems, effectively reduce the probability of rework and other problems, ensure that various construction tasks can be completed on schedule, and help enterprises reduce unnecessary costs.

4. BIM Technology Application Obstacles and Solutions

4.1. Technical Aspect

With the development of smart building construction activities, BIM technology is regarded as the application center, so that it can be used in conjunction with other technologies, and can play a key role in technology.

At this stage, technical personnel in construction projects can only pay attention to the practical application of BIM technology, but based on the future development trend of engineering projects, it is necessary to attach great importance to the secondary development work while using BIM technology, and highlight the key value of the secondary development of technology.

Therefore, for the relevant technical personnel in the project, it is necessary to follow the basic principles of rigor and rigor while formulating management requirements. Construction engineering enterprises need to establish close ties with professional scientific research institutions, and jointly participate in the selection of professional and technical talents while combining them. Based on effective measures, strengthen the training of technical personnel.

For example, for the popular topic of robots, in the process of promoting related research projects, its content research value is relatively high, and it is necessary to integrate them with robots in the process of applying BIM technology.

4.2. Overall Environment

In the process of using BIM technology, it is concretely reflected in the design link, but if it is still in the stage of turning the mold, it is difficult to meet the basic requirements of forward design. Because some staff still use the fixed work form in the long-term design work, it is difficult to make a breakthrough in this type of work mode in a short time.

Based on the application of BIM technology, with the operation of the intelligent construction site system, the types of scientific information technology and equipment involved

are diverse, so the corresponding requirements are put forward for users, resulting in the construction site personnel cannot quickly grasp the operation points of scientific information technology and related equipment within a limited time.

To this end, for front-line staff, project managers and staff are required to change their own thinking in a timely manner, provide a boost for the development of innovative activities, ensure that they can master scientific information technology, and clarify the operation of advanced equipment. With BIM technology, optimize the application effect of smart site construction technology.

5. Summary

In the process of smart site construction, based on the application advantages of BIM technology, in the process of establishing three-dimensional models, it can provide convenient support for the operation and management of the project, and the management of the construction process is gradually transformed to the direction of digitization and elaboration, which can realize the goal of collaborative management and help enterprises reduce construction safety risks. Effectively reduce unnecessary cost expenditure, promote the quality and efficiency of construction projects to improve simultaneously, and gradually form an industrialized construction mode.

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