

Application of water conservancy digital twin platform in construction management

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Objectives

This paper introduces the concept of *Digital Twins*, uses BIM+GIS visualization technology to build a water conservancy intelligent construction management platform, and realizes functions such as intelligent division of water conservancy projects, review of construction organizations, intelligent supervision, and intelligent decision-making.



Methods

1. Based on BIM technology and computer technology, combined with project division standards, realize standardized and intelligent division of water conservancy projects;
2. Based on GIS technology and spatial analysis theory, carry out the review of construction organization and construction site layout;
3. Build a platform based on Web GL, PDA data acquisition and database technology, integrate various functional modules and business modules, realize cross-platform dynamic interconnection of PC, mobile and server, and realize digital supervision of the whole process of project construction;
4. According to the LaoLan Project, carry out the actual application and improvement of the platform.

Results

1. Innovated the way of water conservancy project division, which changed the errors and conflicts existing in the traditional construction management system;
2. Solved the problem that information such as design scheme and schedule cannot be visualized in the traditional construction process;
3. By building a construction management platform, the problems of many participating units, complicated documents and difficult project supervision are solved in the process of project construction management.

Conclusions

As an application scenario of digital twin technology in the field of water conservancy project construction management, the construction management platform can effectively improve management efficiency and engineering benefits. However, from the perspective of practical application, the platform still has certain limitations and deficiencies, including data integration and model accuracy. How to integrate digital twins more closely with construction management is still one of the directions for future research.

