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# AN INNOVATIVE BUSINESS MODEL OF JILIN-1 SATELLITE CONSTELLATION IN FIXED ASSET INVESTMENT STATISTICS

**Abstract**

Fixed asset investment is closely related to national economic development, but investment projects are massive, widely distributed, and frequently updated, resulting in reliance on traditional manual monitoring methods that are time-consuming and labour-intensive. Remote sensing earth observation has the characteristics of periodic and large-scale monitoring, which can objectively monitor and analyse the progress of investment projects, and solve the problems of untimely data updates, difficulty in field investigation and difficulty in ensuring the authenticity of data in investment project statistical business. In addition, remote sensing interpretation supported by artificial intelligence can greatly improve monitoring efficiency, reduce costs, and provide an objective and accurate reference basis for investment decision-making, construction and operation management, and law enforcement supervision. This paper will introduce the techniques and results of monitoring and supervising investment statistics projects based on Jilin-1 satellite data. The Jilin-1 constellation has the ability to rapidly revisit and comprehensively coverage of any region in the world and can provide massive remote sensing data support to meet the demand of high-time and high-resolution data for investment statistics project supervision and realize the fine monitoring of construction in progress. To fully exploit the advantages of cost-effective and highly efficient direct acquisition of remote sensing interpretation technology, we combine artificial intelligence technology to improve the level of automation to quickly obtain remote sensing monitoring indicators for fixed asset investment statistical projects. The key technologies adopted include: the in-process classification technology based on deep learning and time series features, the building profile recognition technology, the shadow and height measurement technology, and the construction progress measuring method. Through the joint analysis of remote sensing monitoring indicators and statistical indicators, a set of the remote sensing monitoring process for fixed asset investment statistical projects has been established, which can verify the construction content, scale, construction progress and other information, and timely detect anomalies such as untimely construction start and delayed construction progress. The set of the technical process has completed seven phases of monitoring services in Zhejiang Province, China, which can meet the demand for services at different scales and for different monitoring purposes in the statistical business analysis of fixed asset investment.