

Basic Data Survey and Investigation of Urban Renewal and Reconstruction Based on Multi-technology Integration

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SUMMARY

At present, China's big cities are undergoing vigorous development and construction, especially since the 21st century, the area and social capacity is becoming more and more big, leading to a certain degree of "urban diseases" such as residential environment congestion, traffic jams and urban waterlogging. Therefore, in recent years, local governments are vigorously promoting urban renewal, especially for surrounding old villages or industrial backward areas can be rebuilt without increasing the land area, but it can realize multi-regional development, improve living environment and improve urban quality.

In the process of urban renewal, basic data survey is the basic work that needs to be carried out in the early stage of the project. It is necessary to fully investigate the current situation data of population, housing, land, cultural relics and other current data in the renewal area, so as to carry out scientific renewal planning and implementation. In order to ensure data quality and work efficiency, we have adopted a series of surveying and mapping technology.

We adopt mobile phone programming to realize real estate information collection and area automatic calculation,utilize unmanned aerial vehicle (UAV) and 3D laser scanning technology to establish a real 3D model of the reconstructed area and building, and use FME to achieve quality inspection and database construction.A village spatial information mapping and modeling production system with integrated technology has been built,which can quickly and accurately obtain geospatial data.Through several actual projects test and the verification by independent third-party testing agency, it shows that the measurement results of this method meet the requirements of the relevant specifications of the real estate and urban renewal survey, improve efficiency and diversity of results,and can provide important data support for design renewal planning, cultural relic protection and illegal land use monitoring.

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