3D Cadastral Practice in Different Cities in China

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SUMMARY

With the continuous progress of urbanization, the rapid expansion of urban population has caused a shortage of land resources. In order to relieve the pressure of land supply, urban land use tends to three-dimensional development. The three-dimensional development of land use has resulted in the diversification of spatial ownership/useright in the vertical direction at different high spans. The scope of all kinds of three-dimensional space overlaps when projected onto the two-dimensional plane, and the traditional two-dimensional cadastral management model cannot clearly reflect the distribution of Rights, Responsibilities and Restrictions (RRR) in the three-dimensional use of land.

As a pioneer demonstration city, Shenzhen, China, has carried out 3D cadastral application practice according to the needs of urban development, becoming a global sample city of 3D cadastre. In particular, Qianhai Special Zone has created a three-dimensional cadastral practice of the whole processes of "From 0 to 3D" three-dimensional planning, approval and management. In view of the successful applications of three-dimensional cadastre in Shenzhen, on July 7, 2020, the State Council mentioned in the Notice NO.96 that "three-dimensional land management model with three-dimensional cadastre as the core" should be replicated and popularized nationwide. In October 2020, the General Office of the Central Committee of the Communist Party of China and the General Office of the State Council issued the Implementation Plan for the Pilot Comprehensive Reform of Shenzhen's Leading Demonstration Area of Building Socialism with Chinese Characteristics (2020-2025), which proposed to "support the deepening of exploration in the land management system", requested to explore the mixed 3D land use plan for second and third industries, to explore the revitalization of existing land use, to explore the layered establishment of land use rights, and to establish the institutional guarantee for three-dimensional urban space development. These policies reflect China's determination to implement three-dimensional cadastral

applications.

Starting from the reproduction and promotion of "three-dimensional land management mode with three-dimensional cadastre as the core", this paper describes how three-dimensional cadastre is applied to three-dimensional urban management and administration from three different types of cities in different regions in China.

1.To handle the historical issues that the ownership/useright of the building is inconsistent with that of the parcel in ShenYang City

2. To describe contemporary 3D properties that building properties locate complex terrain in mountain city Chongqing

3. To tailor the future urban planning for compact new CBD construction in Guangzhou

This paper expounds the practice of three-dimensional cadastre in different cities in China, aiming to provide the sample for different cities around the world to promote and implement the three-dimensional land administration model with three-dimensional cadastre as the core.