

Cadastral2014 Japan to Osaka- ALKIS type Cadastre

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SUMMARY

Japanese cadastral survey was restarted in feudal era; 1590s from Osaka to nationwide. Cadastral system was extended toward 4 major national mapping projects from 1600s to 1840s, which were compiled with Inoh's modern coastline-route line mapping in 1820s and summarized in 1/200,000 maps in 1880s based on Bessel 1841 ellipsoid. Taxation cadaster was promoted from 1873 in Japan and in Taiwan and Korea by triangular surveying till 1910.

As German cadastral system: ALKIS(Official cadastral information system) is the basis of national land information system(GISE; GeoInformationsSysteme), cadastral surveying methods regulated in Japan National Land Survey Act are modernized for ground control points for parcels and photogrammetric 3D models for boundary survey with 4 approaches of satellite surveying and drone to satellite photogrammetry in Osaka city area, which was severely bombed during WW II, like sister-city: Hamburg, comparing with the oldest urban cadastral maps in 1890s in Japan.

4 approaches consist of Parameter Estimation geodetic network surveying, archival aerial photogrammetry, helicopter image's;1cm 3D modeling and satellite photogrammetry.

As final products, cadastral map in 3D and cadastral book are combined in 3D city modeling and representation system with non-stereo-glasses 3D display for consensus of land owners' boundaries as the most key aspect in land administration process.