

Concept of Land Survey for the Kingdom of Saudi Arabia

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SUMMARY

Land surveying in the Kingdom of Saudi Arabia (KSA) plays a vital role in supporting real estate development, infrastructure expansion, land ownership regulation, and national mapping initiatives. The General Authority for Survey and Geospatial Information (GEOSA) has developed a comprehensive framework for land surveying in the Kingdom, encompassing the precise measurement of distances, angles, and directions; the recording of spatial and subsurface features; and the determination of two- and three-dimensional positions, elevations, and gradients. These activities also include documenting and representing geographic and man-made features through systematic data collection and record preparation.

Various methodologies and instruments are employed depending on the type and purpose of the survey, and accuracy required. These include Global Navigation Satellite System (GNSS) receivers, total stations for line-of-sight measurements, imaging cameras, digital levels for height

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differentials, and laser scanning devices, among others.

In Saudi Arabia, land surveying is structured around three main components: (1) Engineering Surveys, (2) Topographical Surveys, and (3) Cadastral Surveys. Together, these components establish the foundation for an integrated, regulated, and technologically advanced land surveying sector. This framework enables GEOSA to strengthen governance, improve data quality, and promote institutional collaboration and coordination across the Kingdom. The proposed concept also outlines a strategic roadmap and implementation plan aimed at engaging all relevant stakeholders, facilitating GEOSA's regulatory functions, and ensuring effective monitoring and governance of the surveying sector. The approach is to capacitate the land surveying sector through enabling standards, specifications, quality assurance and surveying calibration facilities. A key objective is the digital transformation of the land surveying sector, as envisaged in the Saudi Vision 2030.