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## **Comprehensive geo-spatial data creation for Jeddah Governate in the KSA**

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The General Directorate for Surveying and Mapping (GDSM) of the Ministry of Municipal and Rural Affairs (MOMRA) in the Kingdom of Saudi Arabia (KSA) has the exclusive mandate to carry out aerial photography and produce large-scale detailed maps for about 200 cities and villages in the KSA. This presentation is about the comprehensive geo-spatial data creation for the Governate of Jeddah, western KSA, that was founded on country-wide horizontal geodetic ground control using Global Navigation Satellite Systems (GNSS) within the MOMRA's Terrestrial Reference Frame 2000 (MTRF2000) that is tied to International Terrestrial Reference Frame 2000 (ITRF2000) Epoch 2004.0, and vertical geodetic ground control using precise digital leveling in reference to Jeddah 1969 mean sea level, and included aerial photography of 2,480 km<sup>2</sup> at 1:5,500 scale and 9,000 km<sup>2</sup> at 1:45,000 scale, full aerial triangulation, production of orthophoto maps at scales of 1:1,000 (1,400 sheets) and 1:2,500 (350 sheets) for 1,050 km<sup>2</sup>, 1:5,000 (375 sheets) for 4,500 km<sup>2</sup>, and 1:10,000 (188 sheets) for 9,000 km<sup>2</sup>, and production of GIS-oriented highly-detailed digital line maps in various formats at scales of 1:1,000 (1,418 sheets) and 1:2,500 (383 sheets) for 1,050 km<sup>2</sup>, 1:10,000 (125 sheets) for 4,500 km<sup>2</sup>, and 1:20,000 (60 sheets) for 9,000 km<sup>2</sup>. While orthophoto mapping lasted from August 2003 until August 2004, the line mapping continued until August 2006. The total cost exceeded \$10 millions. Rigorous quality assurance and quality control procedures were implemented, resulting in ISO-certification.