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## **Comprehensive geo-spatial data creation for Taif 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 Taif, 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 1,352 km<sup>2</sup> at 1:5,500 scale and 13,776 km<sup>2</sup> at 1:45,000 scale, full aerial triangulation, production of orthophoto maps at scales of 1:1,000 (1,333 sheets) and 1:2,500 (333 sheets) for 1,000 km<sup>2</sup>, 1:5,000 (1,167 sheets) for 14,000 km<sup>2</sup>, and 1:10,000 (292 sheets) for 14,000 km<sup>2</sup>, and production of GIS-oriented highly-detailed digital line maps in various formats at scales of 1:1,000 (1,333 sheets) and 1:2,500 (333 sheets) for 1,000 km<sup>2</sup>, 1:10,000 (292 sheets) for 14,000 km<sup>2</sup>, and 1:20,000 (73 sheets) for 14,000 km<sup>2</sup>. While aerial photography lasted from February 2004 until February 2005, orthophoto mapping lasted from August 2006 until August 2007. Line mapping has started in August 2006 and is planned to conclude in August 2009. The total cost will exceed \$13 millions. Rigorous ISO-consistent quality assurance and quality control procedures have been in place.