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KSA-CORS and unification of CORS networks in KSA

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Many government agencies in Saudi Arabia had created their own CORS networks in order to meet their business requirements. The operation and maintenance of these CORS networks have resulted in redundant infrastructure, government financial burden, inconsistent geodetic references, and inconsistent real-time service solutions. If the situation is not unified, it is possible that more agencies will construct new CORS networks in the future. It is the responsibility of the General Authority for Survey and Geospatial Information (GASGI) to oversee and regulate the unification of networks. The authority has studied the networks design and proposed stations from several agencies in order to combine the existing CORS networks into a sustainable national CORS network. Currently, the GASGI KSA-CORS network of over 200 stations is offering services to users. The precision of the network's real-time service is 1 cm for grid coordinates and 3-5 cm for both ellipsoidal and orthometric heights. This article also examines the preliminary evaluation of the KSA-CORS network in order to evaluate the user-side services. The passive geodetic network was utilized for the real-time and static survey validation campaigns, as well as the integration of the geoid model in the real-time services. In addition, the centimeter-level precision acquired during the testing of the KSA-CORS network is highlighted. A unified nationwide CORS network will satisfy all positioning users and ensure users have confidence in the products and services. It will also provide users with real-time and post-processing access to the national spatial reference frame.