Continuously Operating Reference Stations (CORS) GNSS Network Challenges and Benefits in the Indian Context

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Key words: Cadastre; Engineering survey; Geoinformation/GI; GNSS/GPS; Implementation of plans; Positioning

SUMMARY

A Continuously Operating Reference Stations (CORS) GNSS Network is a modern tool to provide regional positioning service that can provide fit-for-purpose positioning. In CORS Infrastructure, the corrections are instantly sent to the rover receiver (user end) from control centre which helps to find very accurate positioning of rover in real time. CORS plays a major role in achieving centimeter accuracy positioning in many applications, for example, cadastral mapping, land information management, large scale mapping, fleet management, tracking and navigation etc. To achieve this positioning service seamlessly at a regional level, a CORS network need to have an integrated national setup. Survey of India is in process of establishing the Continuously Operated Receiver Station (CORS) network in India for the first time at the national level.

CORS technology is rapidly becoming the preferred method for accurate 3D positioning across the world, and forms the basis for any smart city agenda. It is in great demand among industries like surveying, navigation, construction, mining, precision agriculture and scientific research that require greater positional accuracy, as well as continuity of data. Surveyors, GIS users, Administrators, Planners and Engineers also leverage CORS data for a wide variety of applications. Other popular user groups include Geophysicists, Meteorologists, Atmospheric and Ionospheric Scientists. In this paper, we will explore benefits from a CORS GNSS Network, and shed light on the methodology adopted for CORS GNSS network at the national level.