

Trusted Data Communication and Security Issues in RTK GNSS Network

Tansu Erol, Bilal Erkek and Sedat Bakici (Turkey)

Key words: Geoinformation/GI; GNSS/GPS; Data Communication; RTK GNSS Networks; CORS-Tr; Data Security; Cyber Security

SUMMARY

There are three main activities of General Directorate of Land Registry and Cadastre. These are Mapping, Land Registry and Cadastre. Mapping activities are done in Geomatic Department. The most important projects like TUSAGA-Aktif (CORS-Tr), Metadata Geoportal, Orthophoto Production and orthophoto web services and preparation of Turkish NSDI Feasibility Report were achieved in this department's stuffs since 2005.

CORS-Tr System, serves location information at cm level accuracy in Turkey and TR Northern Cyprus in few seconds, where adequate numbers of GNSS satellites are observed and communication possibilities are present. There are 146 permanent GNSS stations within the CORS-Tr System. Station data are transferred online to the main control centre located in the Geomatic Department of the General Directorate of Land Registry and Cadastre. Currently CORS-Tr has more than 8.500 users. Most of them are private surveying companies working for governmental organization.

It is important to provide both trusted and well communication between the GNSS station and control centre and also between users and control centre. Additionally it is necessary to protect such system and information cyber attacks from inside and outside. This paper presents data communication and security works in GNSS network called in Turkish TUSAGA-Aktif.