

First Practical Results of the Chinese Compass/Beidou GNSS RTK in Belgium for Engineering Surveys

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SUMMARY

The first Chinese BDS (BeiDou) new GNSS constellation satellites can already be tracked in Europe and in Belgium and this paper is reporting the first practical results that surveyors can achieved in post-processing and RTK mode by using only the BDS satellites and by combining them with GPS and/or GLONASS satellites. The next generation of GNSS RTK rover – the new T300 – developed by Compass Navigation Technology (ComNav), a Chinese company established in Shanghai, is based on their own GNSS measurement engine entirely designed and produced in China. The author used the ComNav Technology T300 GNSS rover RTK for performing all tests in the field using a ComNav T300 as local base station to track BDS (BeiDou) signals but also the GNSS Network RTK corrections provided by the WALCORS network (Service Public de Wallonie) to evaluate performances using MAC, VRS and FKP models for GPS and GLONASS observables. These evaluations proves that the Chinese GNSS BeiDou constellation can already contribute significantly Engineering Surveys to increase the reliability and the precision of RTK routine daily jobs. The ComNav T300 can track all the GNSS constellations and by using ComNav's unique QUAN™ algorithm, it can function in RTK mode with all the GNSS constellations or by using any single GNSS constellation such as GLONASS or BeiDou. The impact of these promising practical results will most probably raise the interest of the SPW regional authorities to consider their GNSS Position Infrastructure to be upgraded by adding BeiDou capacity soon.