



## **ETRS89 realization for Polish EUPOS GNSS sites**

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ASG-EUPOS (Active Geodetic Network European Position Determination System) is the Polish multifunctional augmenting system of for precise positioning consisting of more than 120 permanent GNSS reference stations. The Head Office of Geodesy and Cartography is responsible for managing the system, while Centre of Applied Geomatics from Military University of Technology (CAG MUT) supports HOGC by processing data and analyzing solutions to ensure an additional control and monitoring of the system. ASG-EUPOS as national GBAS (Ground Base Augmentation Systems) plays a role of European Permanent Network (EPN) densification, so ASG-EUPOS realizes European Terrestrial Reference System (ETRS' 89) on the territory of Poland. CAG MUT made processing of data gathered by ASG-EUPOS sites in 2009, but they were treated only as the test preliminary results, because of short data span (system became fully operational in June 2008) and unreliable solutions, especially velocities observed. Now, with at least 30 months of permanent observations, it is possible to obtain more reliable solutions, which will enable establishment of European Terrestrial Reference Frame (ETRF2000) in Poland (officially appointed by the governments coordinates and velocities for each site). Bernese 5.0 software was used for GNSS data processing, while using CATREF software the cumulative solutions and velocities determination was enabled. The paper summarizes the elaboration made according to the EPN Guidelines for EUREF Densifications, presents the solution and conclusions from the analysis of final results.