



## **NRT GNSS data processing service for regional GNSS tomography**

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Since 2008 in the territory of Poland a EUPOS GBAS system called ASG-EUPOS is working. This system gathers permanently the GNSS data from 130 stations and meteorological (temperature, pressure and relative humidity) data from 17 stations. The average distance between GNSS stations is 70 km.

The most important products of the ASG-EUPOS system are the real time positioning services (RTK and RTN), the possibility of improving the GBAS RTK and RTN positioning accuracy through introducing additional troposphere's correction service is the area of future interest. To achieve this goal the real time service producing ZTD should be established. The ZTD will be the main input for NRT GNSS tomography model – the new atmosphere monitoring tool in Poland. The NRT scheme here represents 15 minutes delay in the product delivery.

Main aim of this paper is the presentation of the GNSS data processing methodology for regional NRT ZTD modelling. The GNSS processing is based on Bernese GPS Software 5.0. The test area is located in south-western Poland and consists of regional sub-network of ASG-EUPOS stations. These stations are referenced to the eight EPN stations in Central Europe. The paper addresses: network organization scheme, structure of data feeding services, monitoring of the network consistency, orbits augmentation, NRT ZTD precision and accuracy validation with meteorological on site derived ZTD's and ZTD post processing.

The paper will provide methodology and ready to use solutions for NRT ZTD processing in the area of Poland for the future use as an additional meteorological monitoring tool. The results will serve also as a base for future RTN solution upgrade.