

## **WP10-DDSS-016: Products.EUREF.Combined.Positions**

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*Document assessing the validation procedures / quality checks performed in our institutes*

### **Input files**

Daily solutions provided by the 16 EPN Analysis Centres (AC) in SINEX format.

### **Metadata checks**

The metadata included in AC SINEX files (receiver types, antenna types, antenna radomes, antenna eccentricities, antenna phase center offsets) are checked for consistency with station log files and with the EPN antenna calibration model. To ensure the highest agreement between station positions computed by different ACs, stations for which metadata inconsistencies have been found are excluded from affected AC solutions before doing a combination.

### **Internal checks**

Various internal checks are performed to assess the quality of EPN combined daily and weekly positions:

- residuals of individual AC positions with respect to the combined solutions and their time series,
- RMSs of station position residuals,
- coordinate differences with respect to previous solutions,
- the quality of the reference frame alignment.

### **Comparisons of results obtained with different software**

The official daily and weekly EPN combined coordinate solutions are created with Bernese GNSS Software. For comparisons, AC solutions are also combined using CATREF software. The comparisons concern station position differences, detected outliers, RMSs of individual AC solutions.

### **Monitoring of the AC processing strategies**

The processing strategies used by ACs are monitored in order to ensure the consistency of estimated station positions between ACs.