



MAA-AMET

National Report of Estonia

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Geodetic system change 1.01.2018



- Height system **EH2000**
 - *Normaal Amsterdam Peil*, epoch 2000

- Gravity system **EG2000**

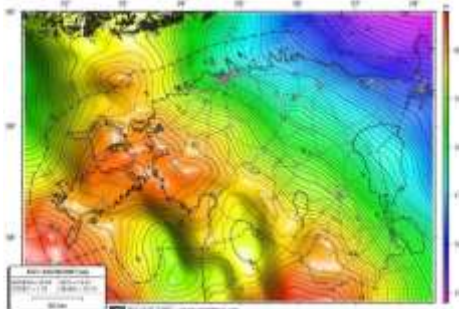
- Based on international standards and Estonian absolute gravimetric points (7), epoch 2000

- Height correction surface **EST-GEOID2017**

- Ellipsoidal heights EUREF-EST97, normal heights EH2000, epoch 2000

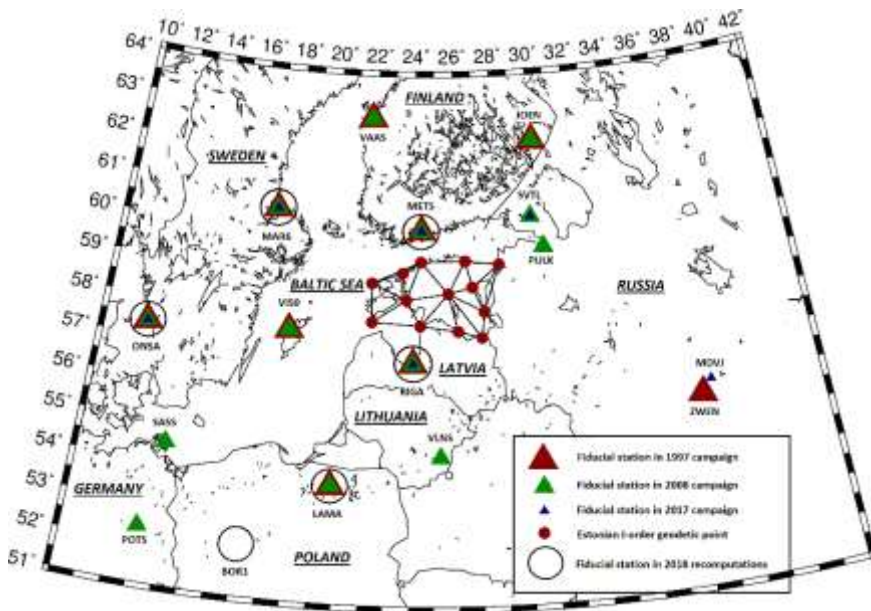
- Reconstruction of height network 2003-2016

- Altogether 4 238 km levelling lines with 3144 benchmarks with accuracy of heights ± 1.7 mm

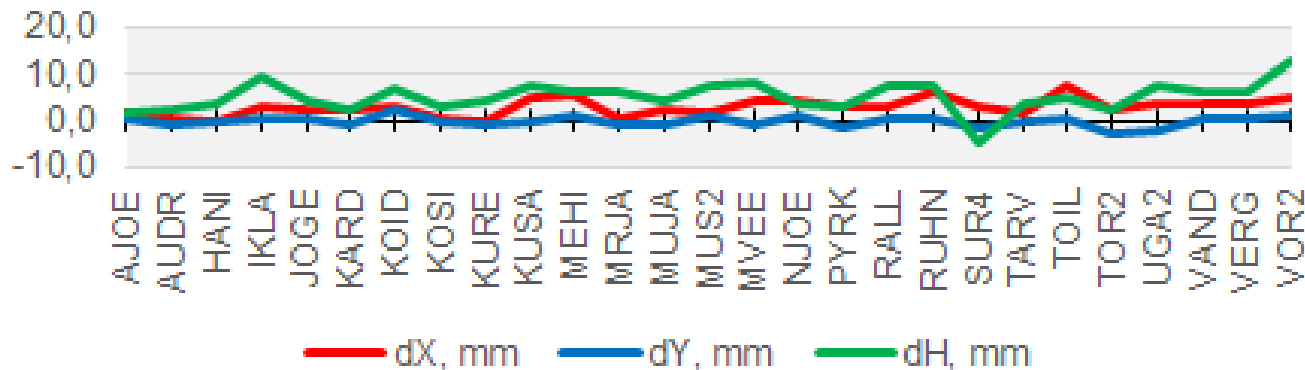


Re-measurements of I-order National Geodetic Network

- Two 72 hour sessions, 13 first class points
- 27 ESTPOS stations
- 11 fixed stations from EPN
- Computations Bernese 5.2



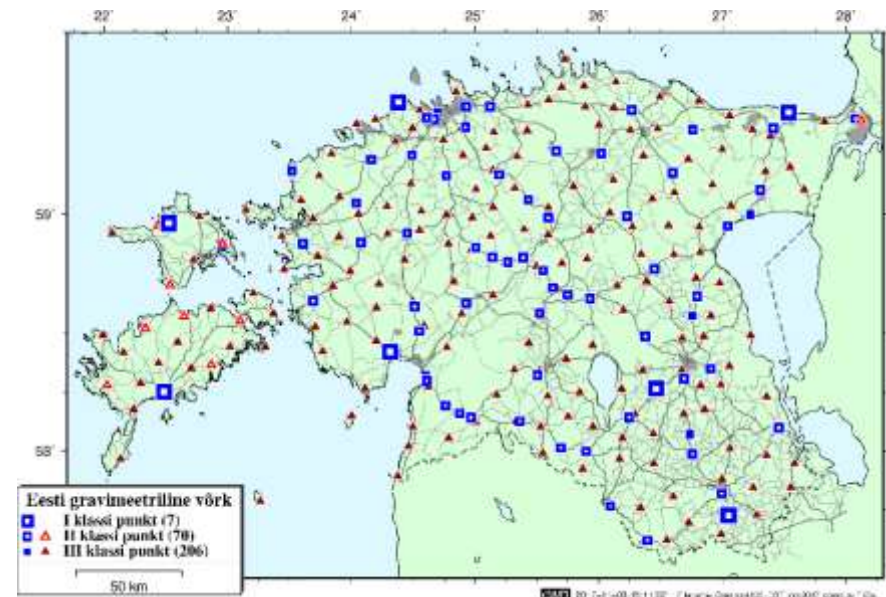
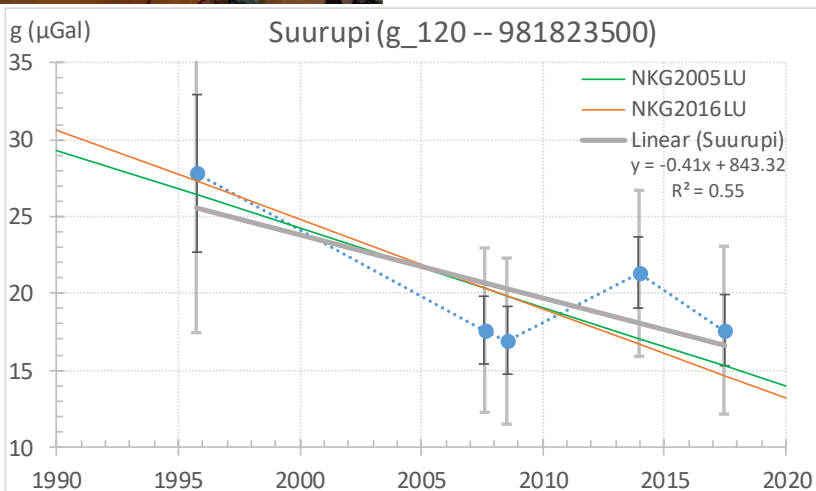
Coordinate differences REPRO2017 - ETRS89



Absolute gravity in 2017



- FG5X-221 in Suurupi (19-22.06), Tõravere (26-29.06), Haanja (29.06-2.07) and Toila (2-5.07)
- FG5X-221 results: FGI (2017) Certificate of Calibration No 28/2017 – 31/2017



Reconstruction of Vääna baseline

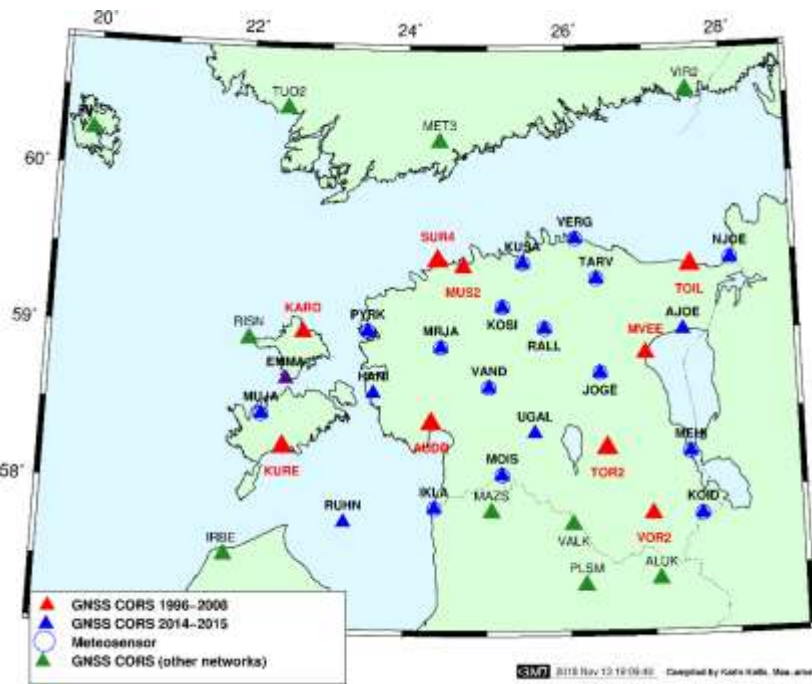


- 13 observation pillars (6+7), length 1344 m
- 3 deep benchmarks and 13 ground benchmarks
- Reconstruction 2017
- Calibration Certificate (FGI)

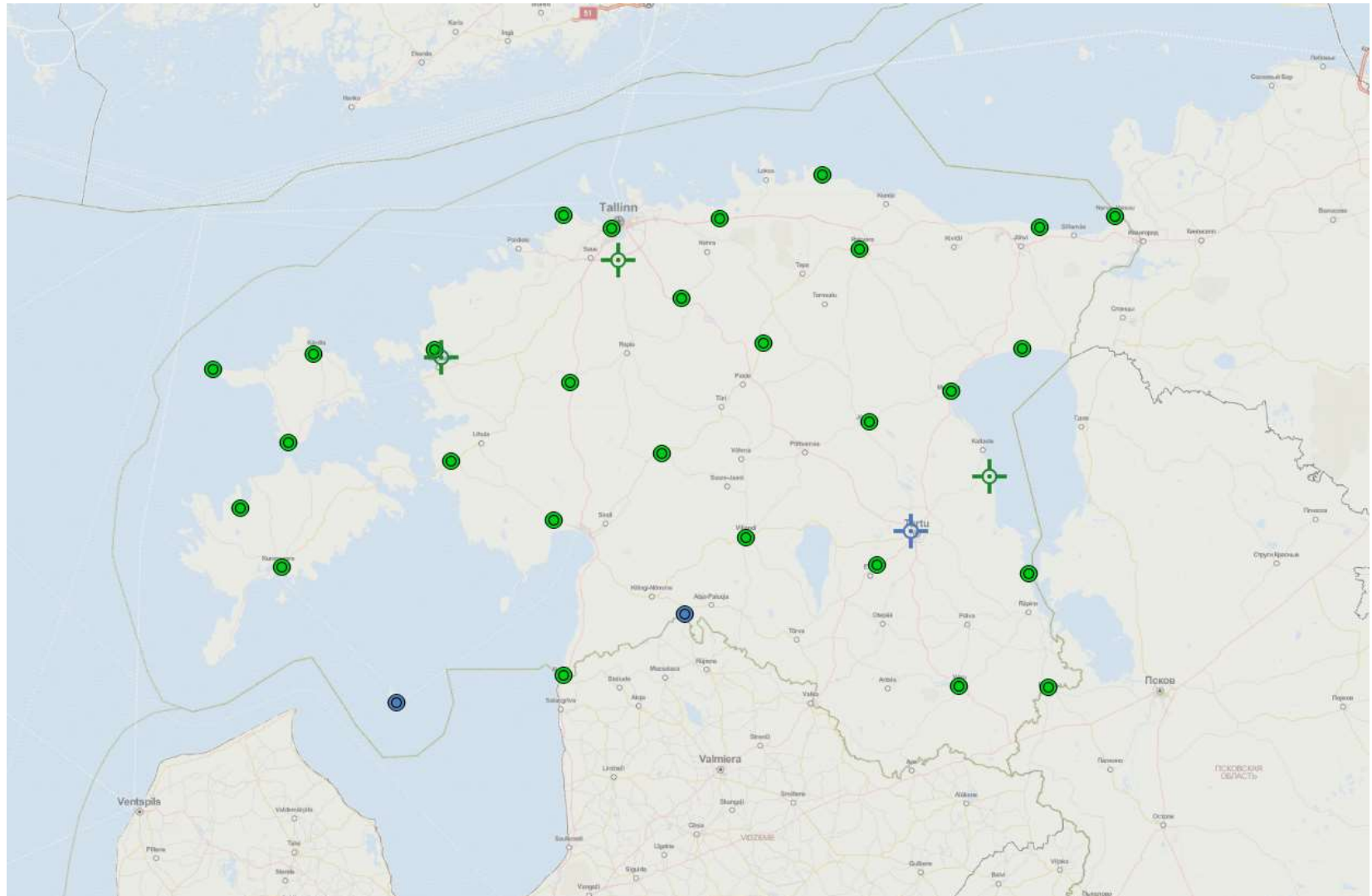
Estonian GNSS permanent station network (ESTPOS)



- 29 stations
- GPS+GLONASS+GALILEO
- All stations have same equipment (e.g. Leica)
- 14 stations with meteosensors
- RTK streams available
 - Not for Galileo yet
- Reconstruction 2014-16, Estonian-Swiss cooperation program
- Most critical - internet connection



Estonian GNSS permanent station network (ESTPOS)



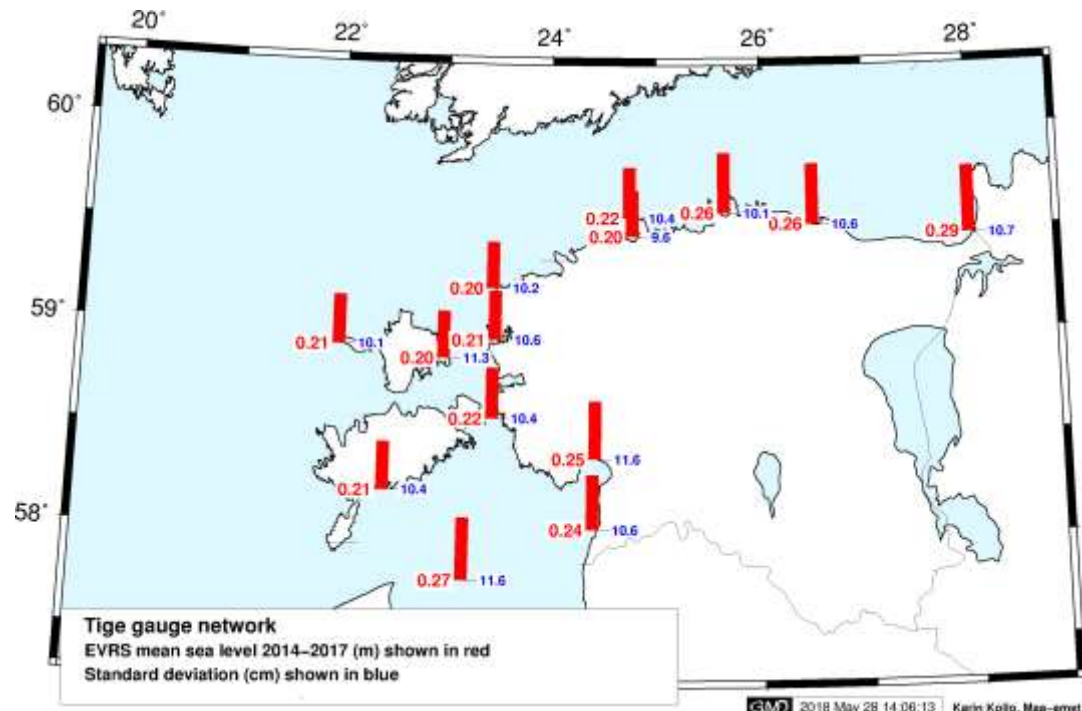
Inspection of geodetic marks

- Questionnaire proceed to understand needs of surveyors
- This year maintenance works for ~ 75 geodetic points from I and II order National Geodetic Network



Tide gauge network

- to estimate mean sea level for coastline mapping
- to specify connections of tide gauges to the levelling network





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Thank you!

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