National Report of Estonia

Estonian Land and Spatial Development Board

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Maa- ja Ruumiamet

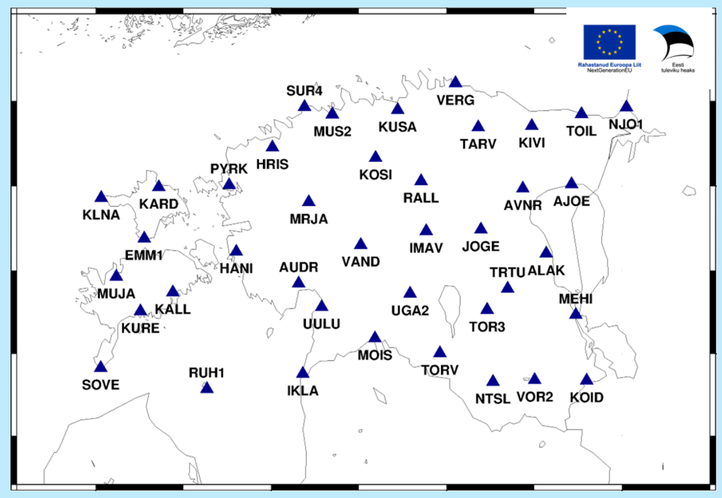
Activities: **Geodesy service**

„Ensuring the existence and use of the geodetic system“

- Maintenance of National Geodetic System
- Maintenance of National Geodetic Networks (passive points)
- Maintenance of ESTPOS and its services (active points)
- Maintenance of Geodetic Point Database
- Maintenance of Geodesy archive

Backbone of the system

- Upgrade of ESTPOS finished in April 2025 with RePowerEU funding.
- The network comprises 40 stations using Leica GR50 receivers and AR25 antennas.
- Two stations relocated: TOIL and AJOE
- Real time data no more shared to EPN casters (KURE, SUR4, TOIL and TOR3)



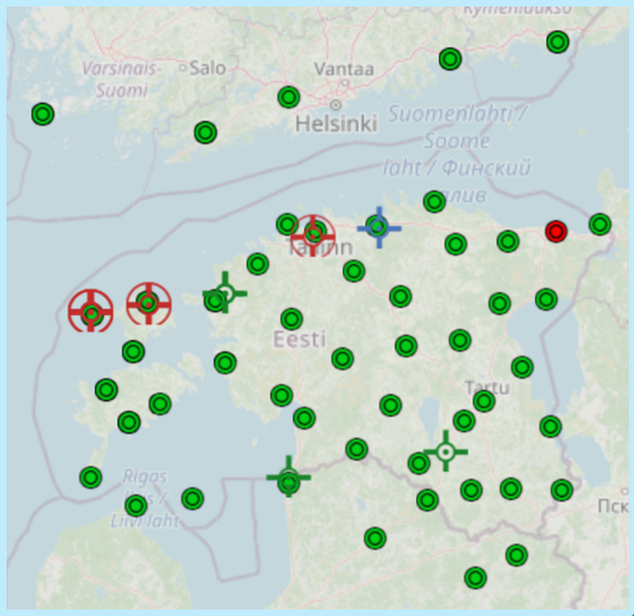
ESTPOS services

Free and open services to everyone:

- RINEX and Virtual RINEX data
- Computation service
- Transformation service

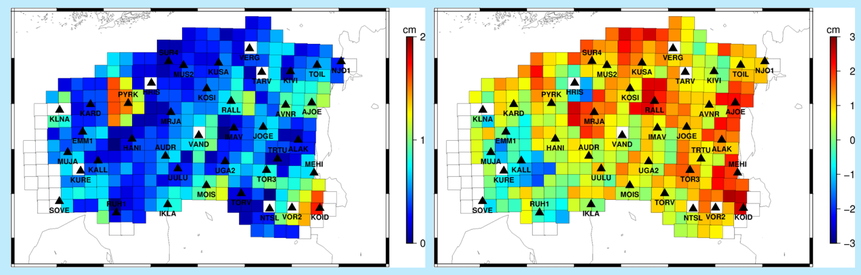
Possible paid services:

- RTCM streams
- RTK corrections (only for governmental institutions and local municipalities)
- Free for universities



RTK accuracy check (GridCheck)

ESTPOS RTK network accuracy check without fieldwork using the GridCheck method

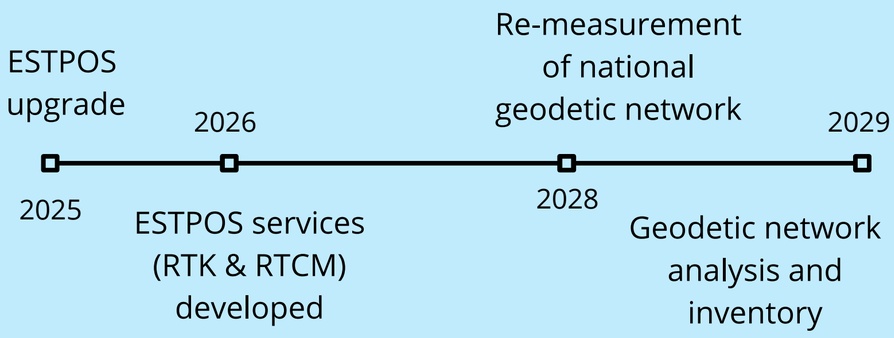


Figures show the results from the first run and preliminary horizontal and vertical error surfaces

Strategy: Geodetic system management 2026-2029

Strategy 2026–2029

- The strategy calls for analysis of the national geodetic network in 2026–2028
- If needed, implementing changes to ensure the sustainability of Estonia’s geodetic reference system



Questionnaire on geodetic benchmarks

State today

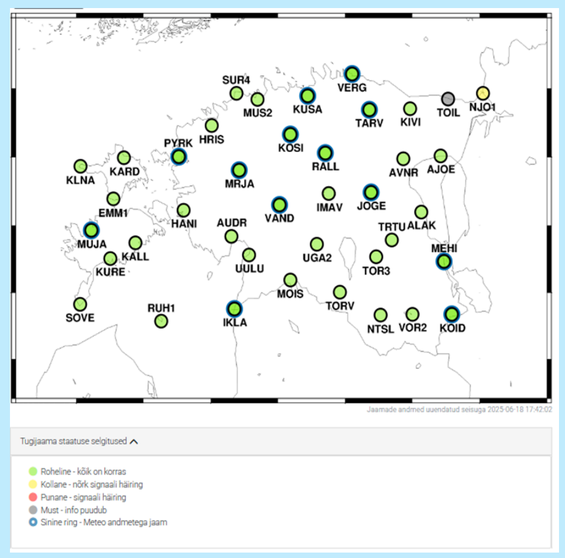
- national geodetic network benchmarks are described as generally satisfactory
- issues are mainly with local geodetic benchmarks and local height benchmarks

What users asked for

- More efficient monitoring
- more frequent inspections
- a dedicated mobile application

ESTPOS quality monitoring

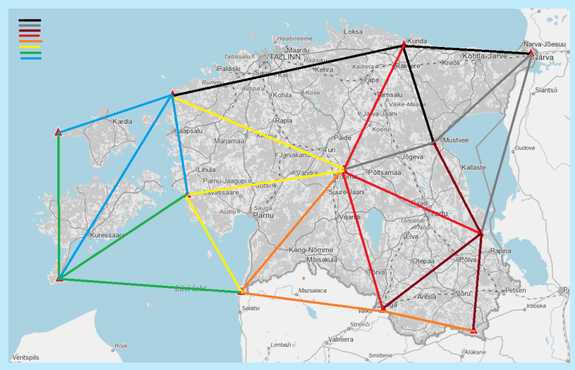
- Network quality is monitored in the ESTPOS user portal and in Leica SBC.
- Station quality is published in the Geoportal using in-house development.
- Latency is reported in almost real time (about 2 hours) and in real time (about 1–2 minutes).

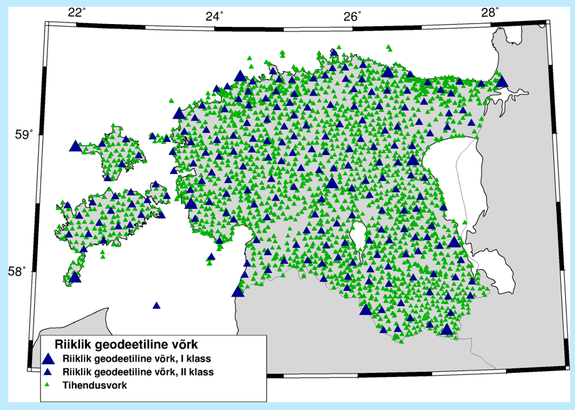


Recent developments and future

2026-2029

- A public survey on geodetic point database usage → changes in the geodetic database are planned
- Sustainability of Estonia’s national geodetic system
- Strengthen the ESTPOS CORS network and services
- Monitor data quality and GNSS interference
- Re-measurement of I and II order national geodetic network (passive GNSS)
- Inventory of benchmarks of the national densification network and geodetic point database





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