

National report of Belarus

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State Enterprise “Belgeodesy”



Organizers:

 REPUBLIC OF SLOVENIA
MINISTRY OF THE ENVIRONMENT
AND SPATIAL PLANNING
THE SURVEYING AND MAPPING AUTHORITY
OF THE REPUBLIC OF SLOVENIA



 GEODETIC INSTITUTE OF SLOVENIA



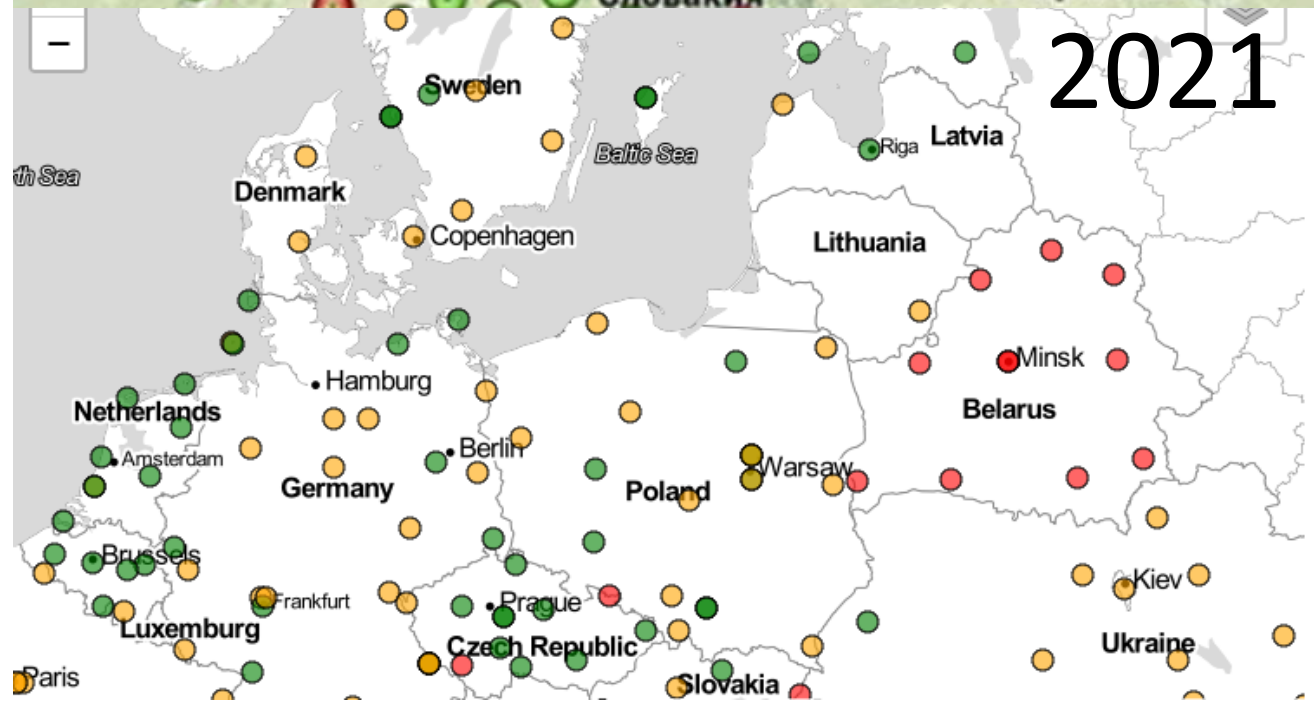
Sponsors:





On the way to a new national reference coordinate system

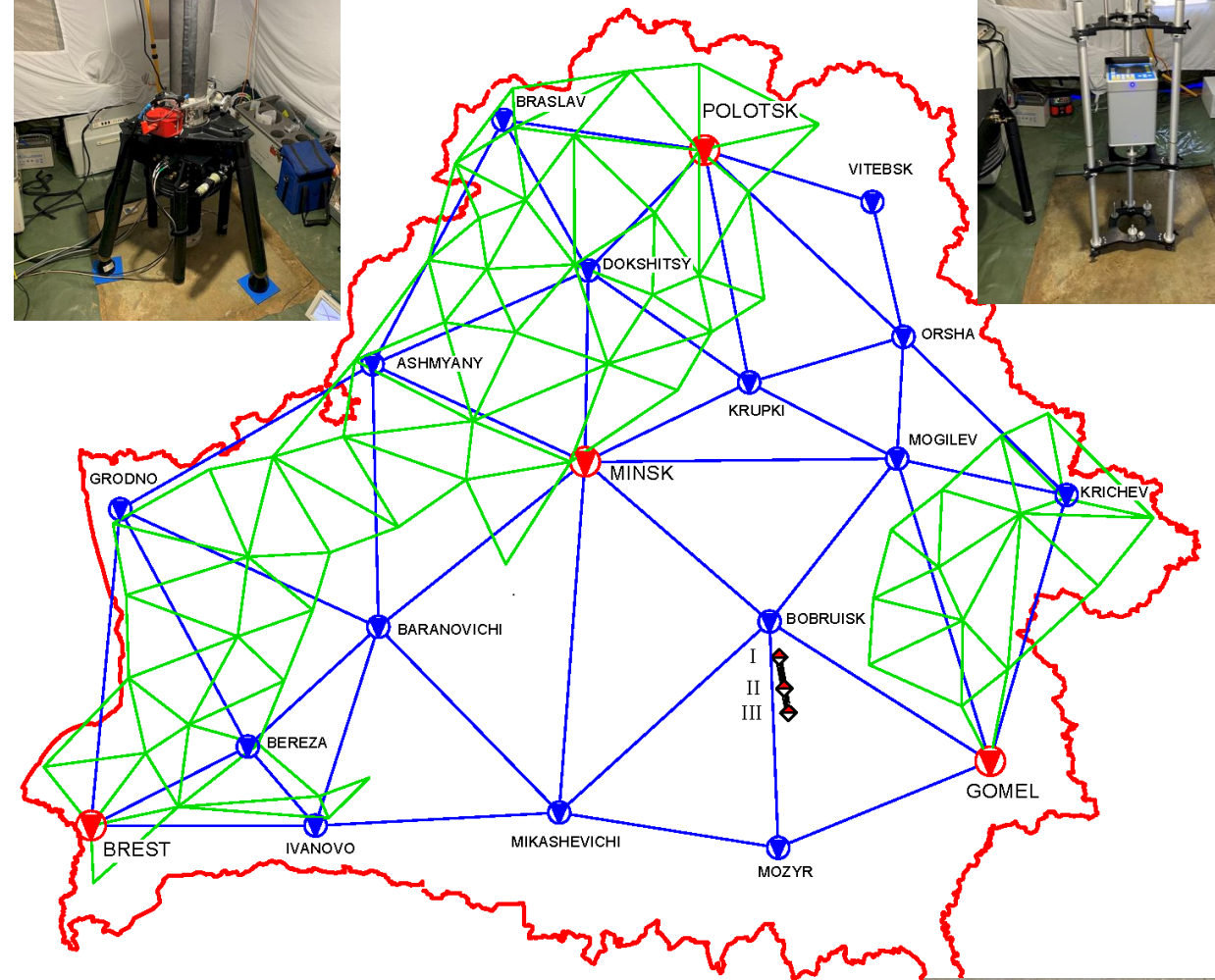
- **10 Belarusian CORS** were included in the European Permanent Network. The state enterprise "Belgeodesy" provides stable continuous observations and a continuous stream of data
- **The coordinates and velocities** of the points of the zero-order geodetic network and of the permanent stations of the Belarusian satellite positioning system were calculated **on the epoch 1.01.2020** based on continuous observations for eleven years. The calculations were carried out in accordance with "**Guidelines for EUREF Densifications**"





Creation of the modern gravimetric network

- In 2019-2020, a **gravimetric metrological testing ground** was created. The length of the base line is 30.9 km. The gravity difference between the end points is 88.7 mGal. Absolute gravity observations were carried out with a ballistic gravimeter FG5 (Russia)
- In 2020, **repeated observations on 4 points of the fundamental gravimetric network** were carried out (ballistic gravimeter FG5, Russia)
- In 2019-2020, a state **core gravimetric network of the 1st order** was created using the relative method (15 point, Scintrex CG-6)
- Currently, we are working on creation of a **common gravimetric network of the 1st order**. Creation of 96 points is planned, mean distance between them is about 30-50 km (54 of them are already complete)



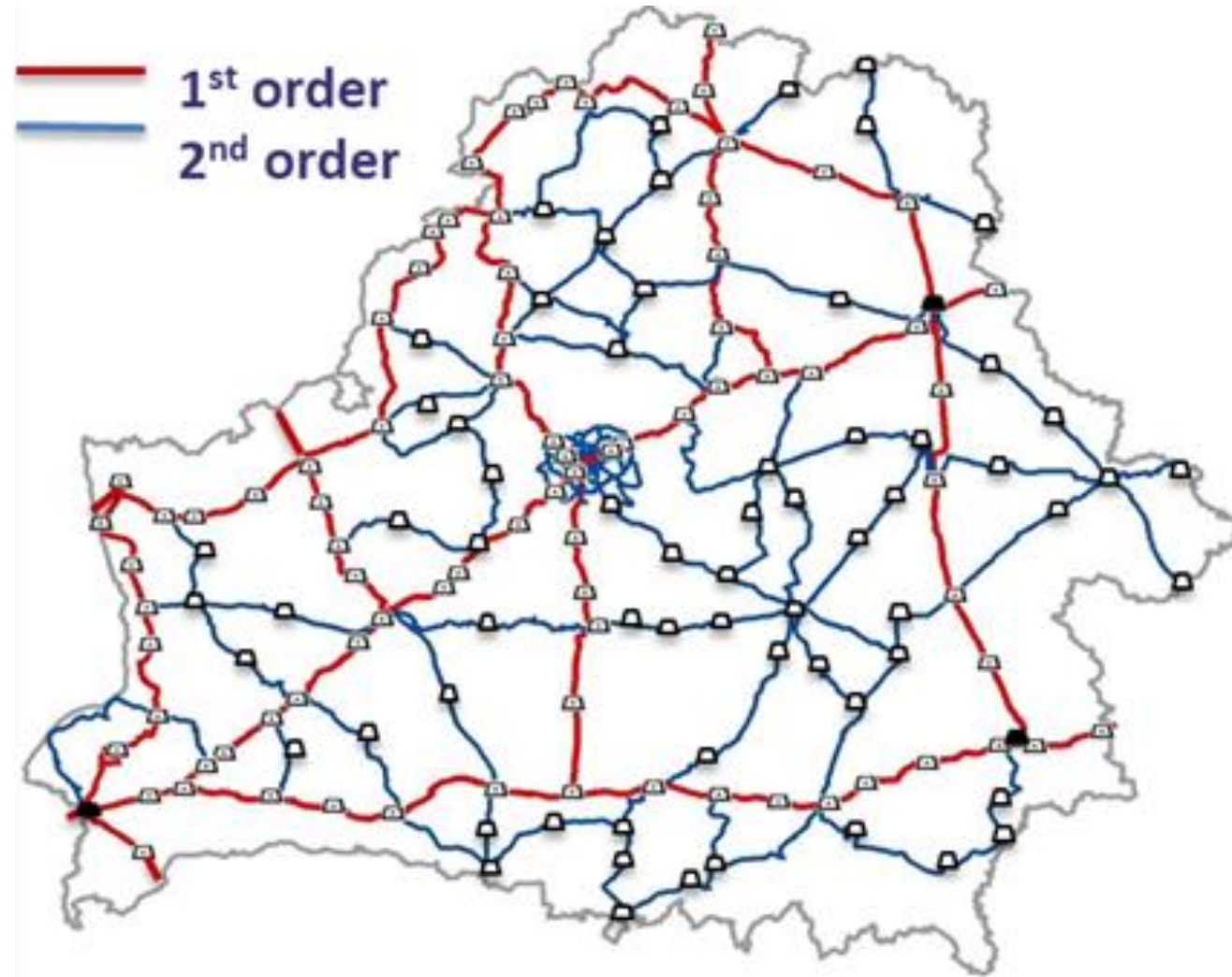
- ◆ - GRAVIMETRIC METROLOGICAL TESTING GRAUND
- - FUNDAMENTAL GRAVIMETRIC NETWORK
- - CORE GRAVIMETRIC NETWORK OF THE 1ST ORDER
- - COMMON GRAVIMETRIC NETWORK OF THE 1ST ORDER





On the way to the new national vertical reference system

- In 2019-2020, **satellite observations** on 153 fundamental benchmarks of the 1st and 2nd order leveling networks were performed according to the program of the satellite geodetic network of the 1st order (2 sessions of 6 hours each);
- Currently, work continues on multivariant adjustment of the state leveling network of the 1st and 2nd order, **determination of the vertical reference level** (geopotential value W_0) and creation of a national quasigeoid model.

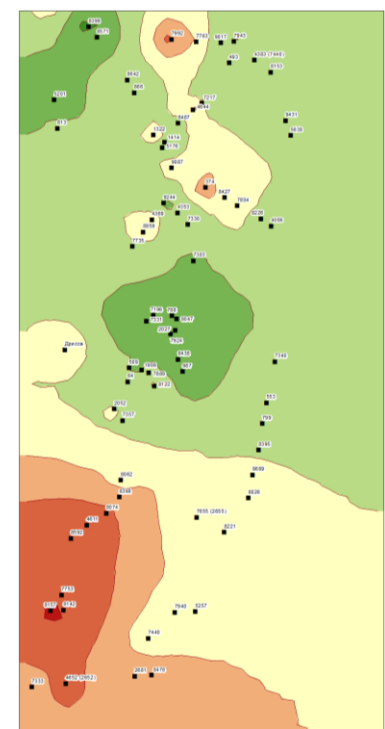
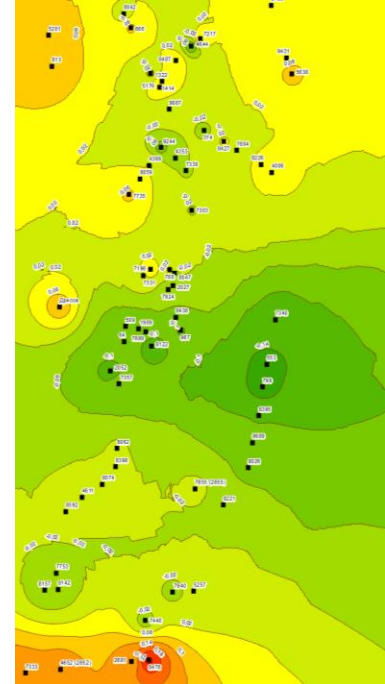
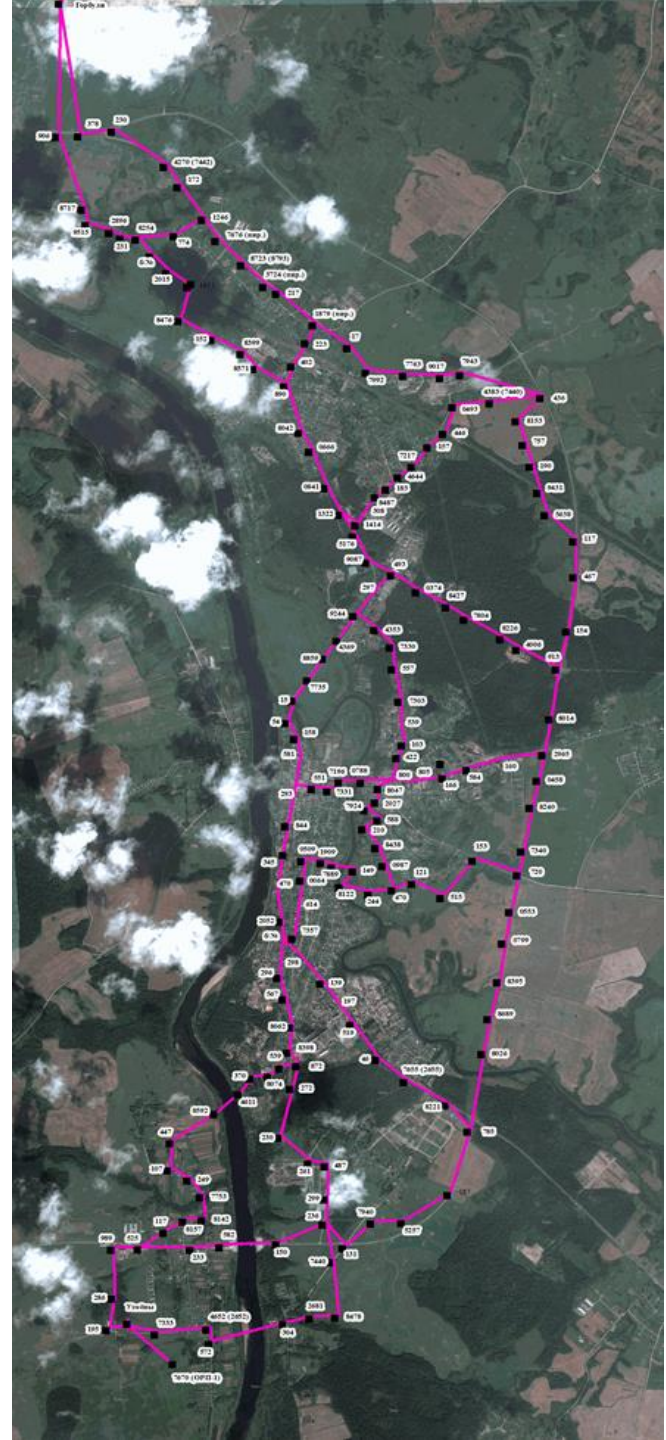




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Improvement of the reference coordinate frame

- **Stability** of the spatial position of our CORS control, creation of the time series
- **Compatibility** of the Belarusian satellite positioning system and the passive geodetic network **control**
- **Reconstruction** of urban geodetic networks in order to eliminate existing deformations in realizations of the local coordinate systems
- **Clarification** of transformation parameters between the national reference coordinate system and local coordinate systems (for urban geodetic networks)





BELGEODESY

State Committee on Property of the Republic of Belarus

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Thanks you for attention!