CREATION OF POSITIONING SERVISE

NATIONAL REPORT OF THE REPUBLIC OF BELARUS
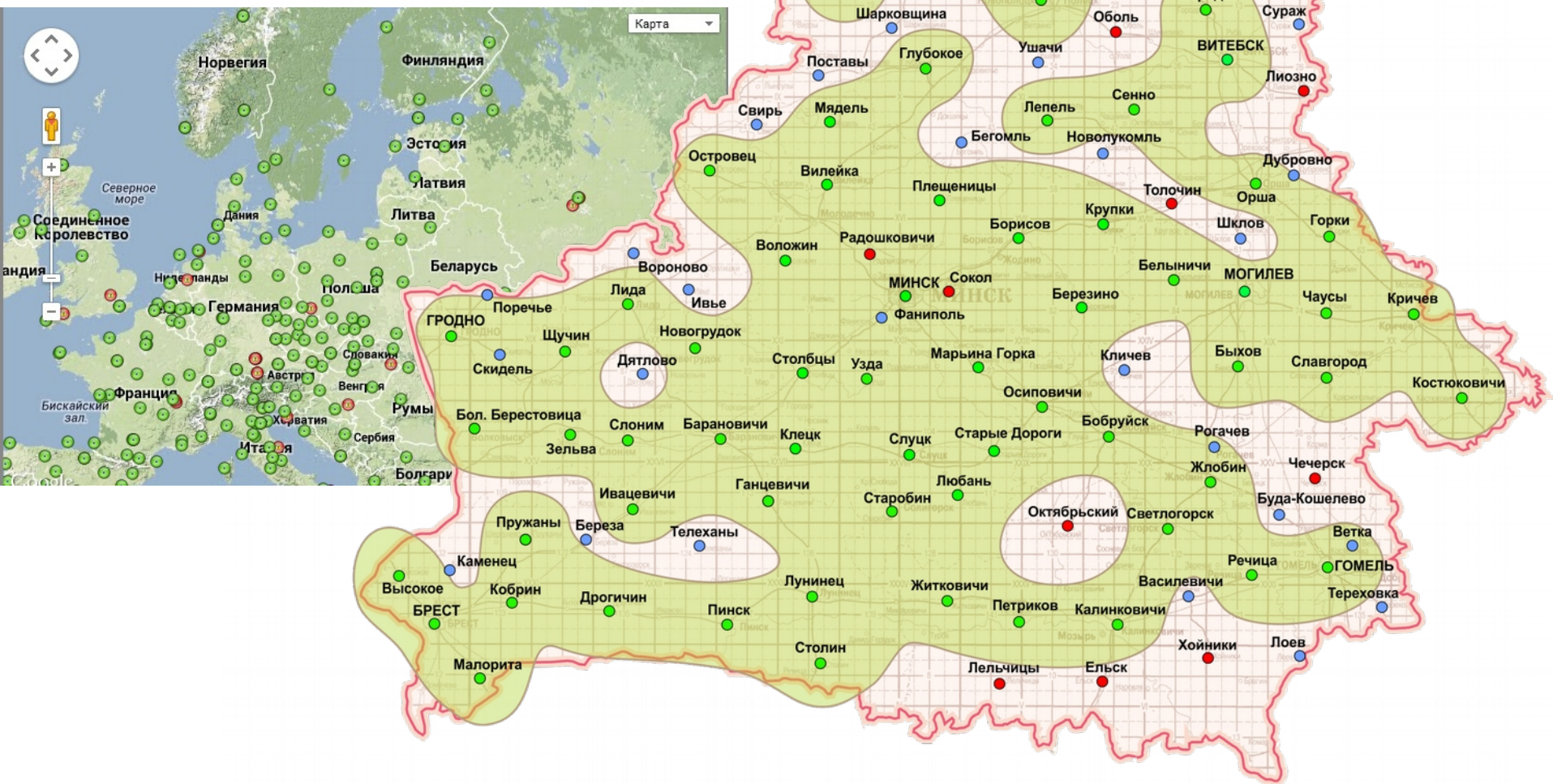
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Creation of CORS network

Operating station - 63

Scheduled station in 2014 - 10

Scheduled station in 2015 - 15

RTK coverage area

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Creation of CORS network

- National positioning service is created as a part of national geodetic infrastructure and realizes ITRS/ETRS, new national reference coordinate system and local coordinate system in real time

- Project - 99 CORS, distance between stations - 50–70 km, in order to provide RTK for the whole territory of the Republic of Belarus

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# National positioning service – a part of state geodetic infrastructure

- Network of CORS have to provide height quality of positioning, namely :

✓ height accuracy of realization of ITRS/ETRS, national reference coordinate system and local coordinate systems;

✓ height stability of CORS for a long period of time;

✓ compatibility of passive and active parts of national geodetic network.

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✓ **height accuracy of realization of ITRS/ETRS, national reference coordinate system and local coordinate systems**

- Calculating coordinates of CORS in combined 4-weekly minimum constrained solutions (BERNESE software):

- 10 IGS/EPN reference points and 2 nearest EPN stations are include in daily network solution;

- final IGS orbits and Earth rotation parameters, absolute antenna models are used in the data analysis/

CORS coordinates are transformed to epoch of realization of national reference coordinate system – 2008.31.

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✓ **control of CORS stability for a long period of time -** continuous post-processing of data and creation of time series

Combined solution for one year (repeatability)

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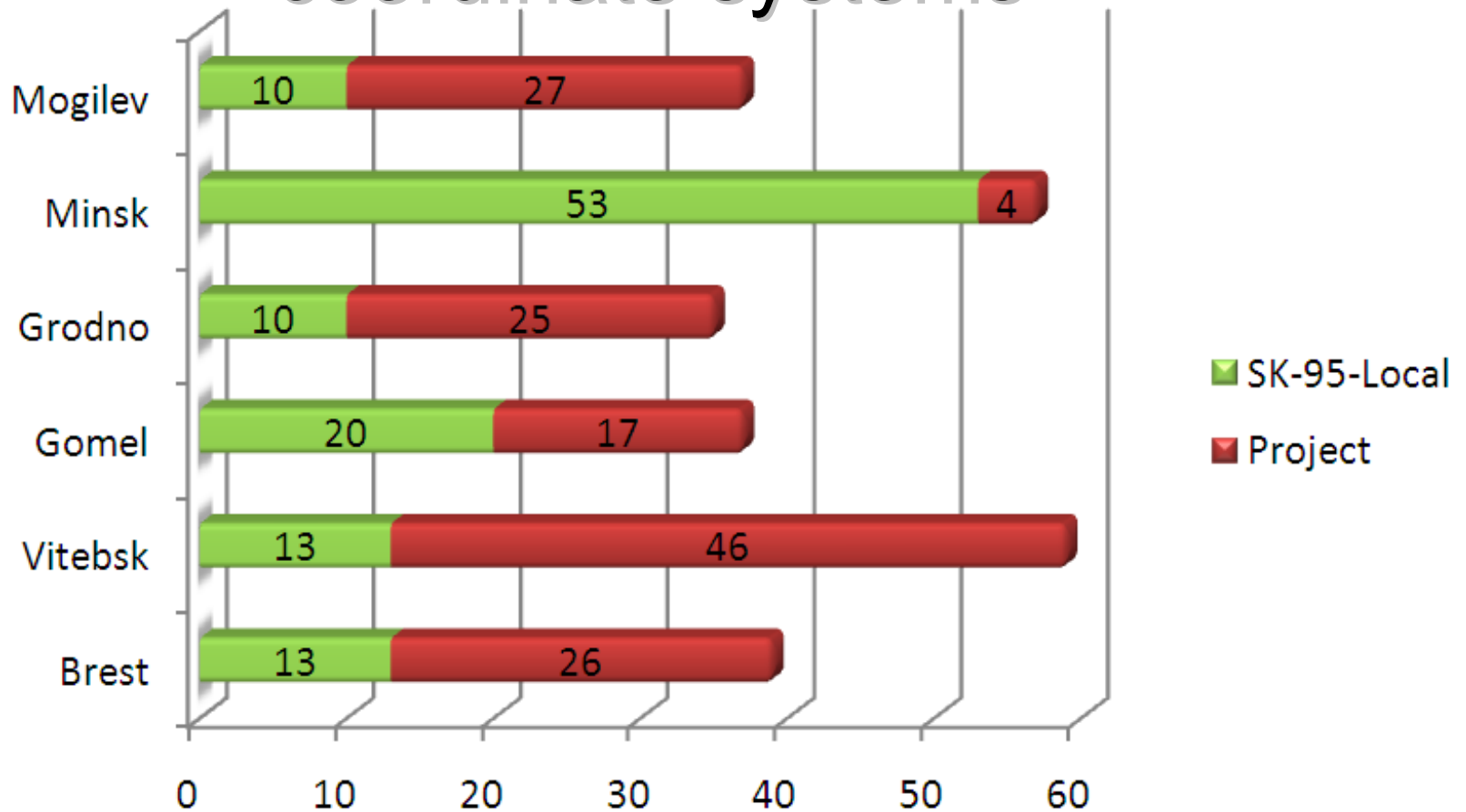— North — East — Height
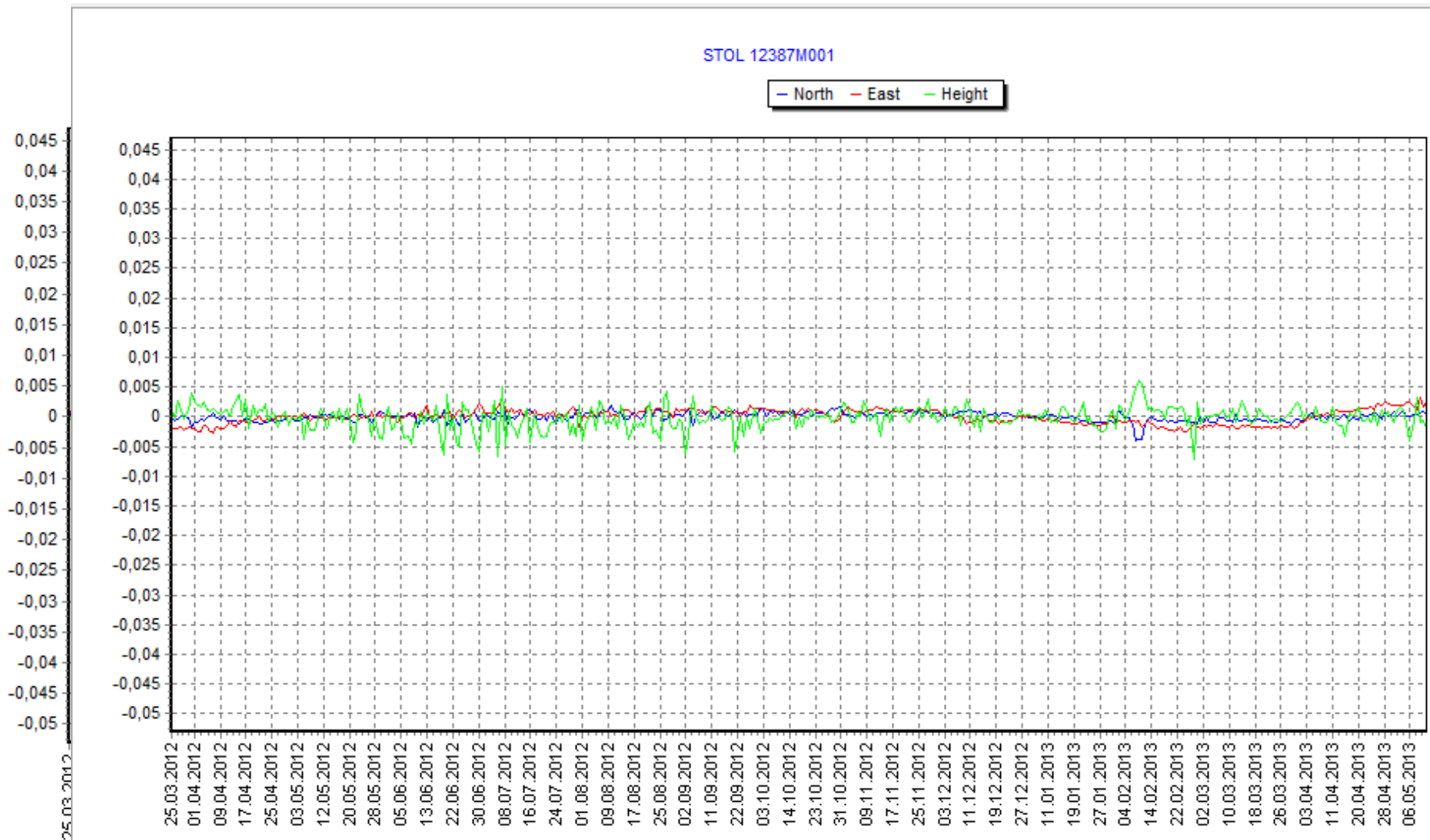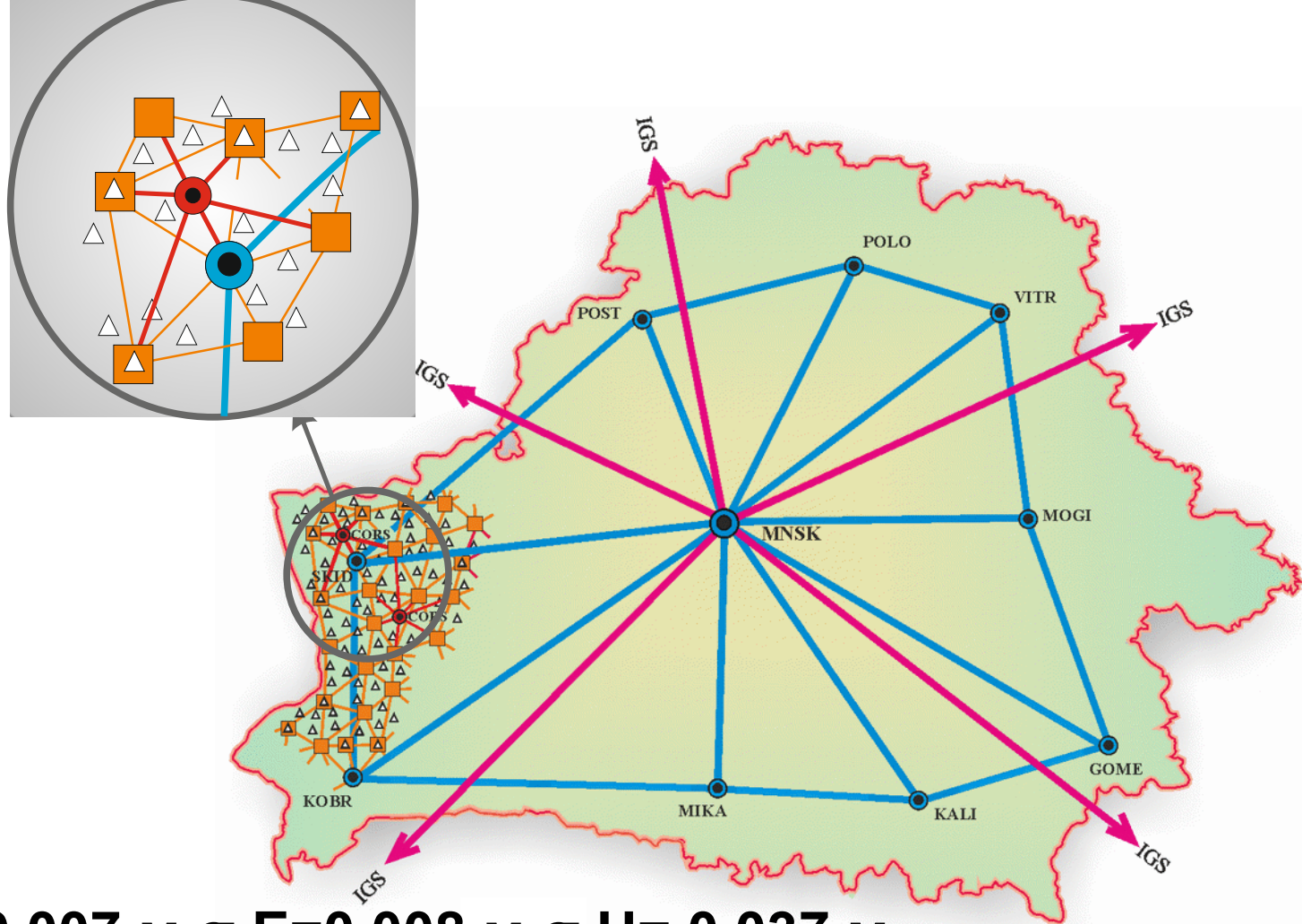
σN= 0,007 м σ E=0,008 м σ U= 0,037 м

Control compatibility of passive (points of satellite geodetic network of 1 class) and active (CORS) part of national geodetic network
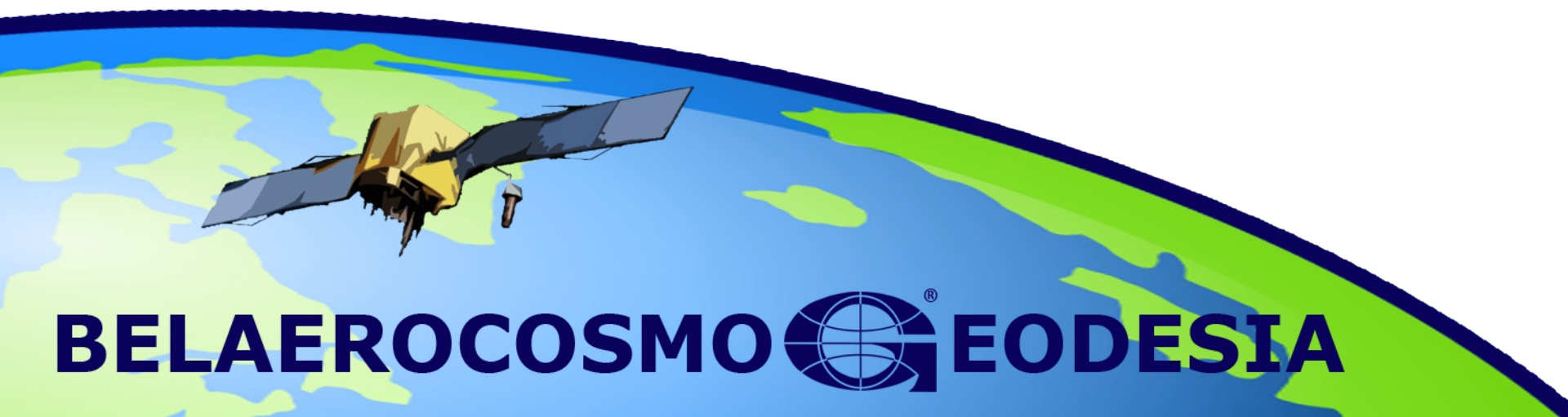
Realization of local coordinate systems (derived from old state coordinate system (Pulkovo 1942))

- Determination of relationship between new national reference coordinate system and local coordinate systems and between ITRS/ETRS and local coordinate systems;

- Excluding of conflict between positioning from CORS and determination coordinates from geodetic points of traditional local network;

- a) to reveal significant deformations in local geodetic networks;

- b) upon detection of deformations – to eliminate them.

Relationship determination between CS-95 RB,ITRS/ETRS and local coordinate systems

Many thanks for your attention