

**- MY DAILY WORK AND TECHNICAL
DEVELOPMENTS WE ARE WORKING ON-**

**1st FIG Young Surveyors European
Meeting**



**National Agency for Cadastre and Land Registration
Bucharest, ROMANIA**

Lisbon, Portugal, 17th – 18th October 2013

CONTENT

◆ 1. My daily work

- ✓ ROMPOS system administration;
- ✓ approval and acceptance of specialized works;
- ✓ advices for citizens related to the field of geodesy.

◆ 2. Technical developments we are working on

- ✓ back-up solution for ROMPOS servers;
- ✓ a national gravimetric quasigeoid model for Romania



ROMANIAN GNSS Network

(National Space Geodetic Network)

ETRS89 official introduced

<i>Applications</i>	<i>Class</i>	<i>E (cm)</i>	<i>Realization by</i>
First class national geodetic network Regional and local geodynamic, deformation projects, engineering surveying, et al.	Ao/A	1.0	<i>Permanent stations</i> 74 ANCPI +1 TUCE
Second class national geodetic network connections to primary network, engineering surveying, landslides	B	2.0	<i>Epoch stations</i> 306 points (2003)
Third class national geodetic network engineering surveying, cadaster	C	3.0	<i>about 4750 points</i> <i>(1pt/50km²)~100 pts/county</i> <i>Realization 100%</i>
Fourth class national geodetic network cadaster, GIS et al.	D	5.0	<i>(1pt/5km²) (Finalized only for Bucharest area)</i>

GNSS Network Class Ao/A is the core of ROMPOS
(Romanian Position Determination System)

1. My daily work

- ✓ **Romanian Position Determination System (ROMPOS) administration**

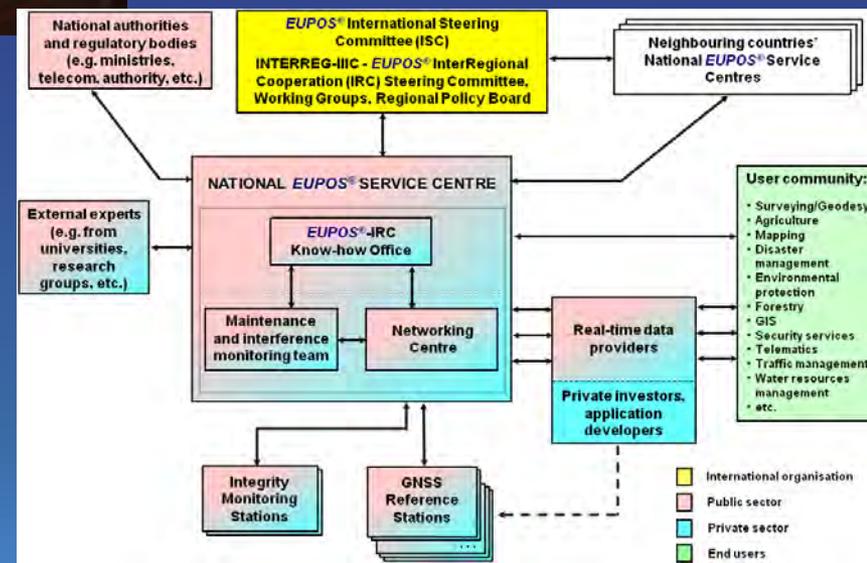


National Center for ROMPOS Services

About 2700 registered users of ROMPOS-RTK (last year in march the number was 2100)

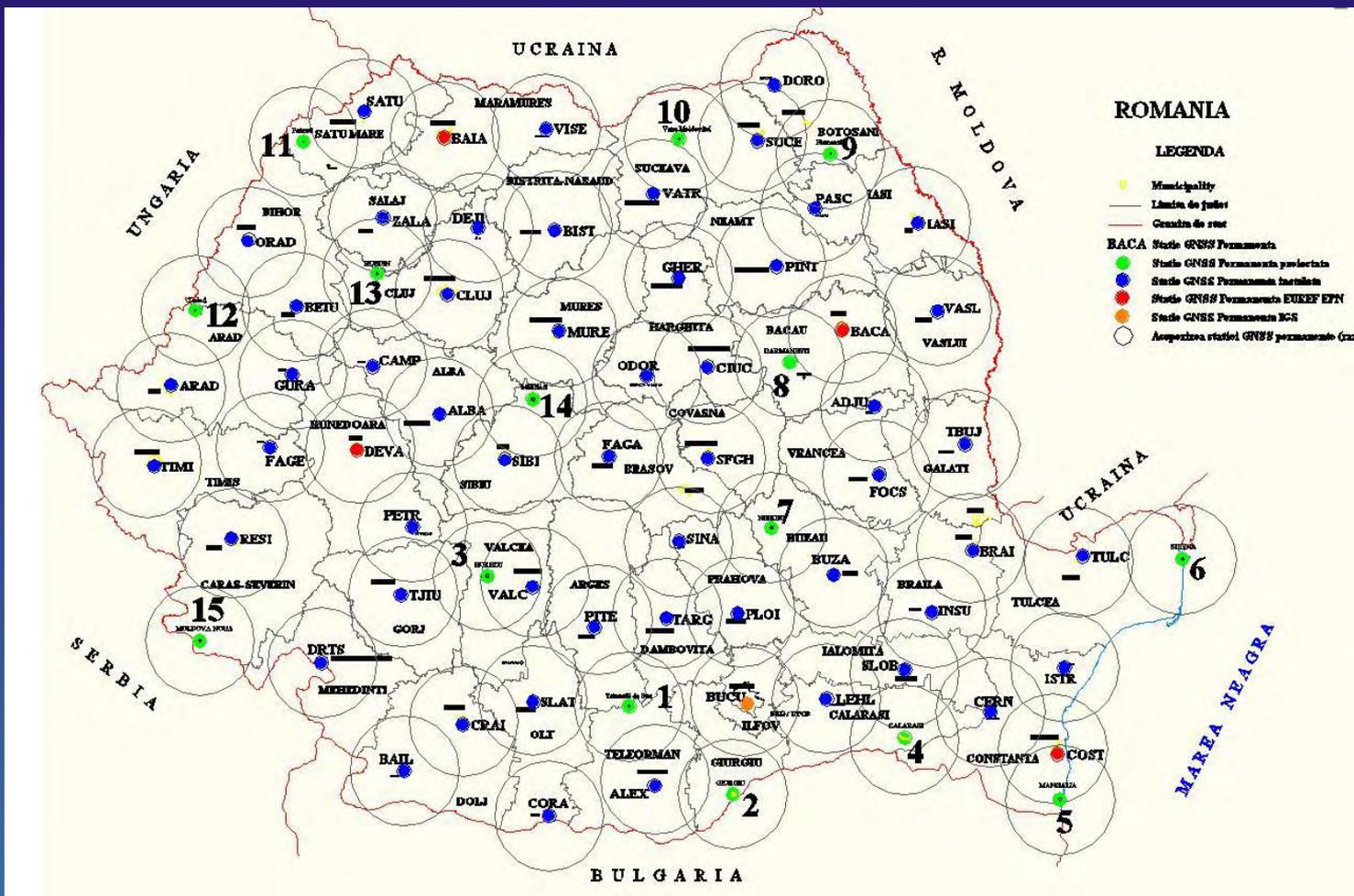
ROMPOS = Registered mark in Romania

Networking software achieved and installed in May 2009 (7 servers ; 4 clusters; up to 9Tb)

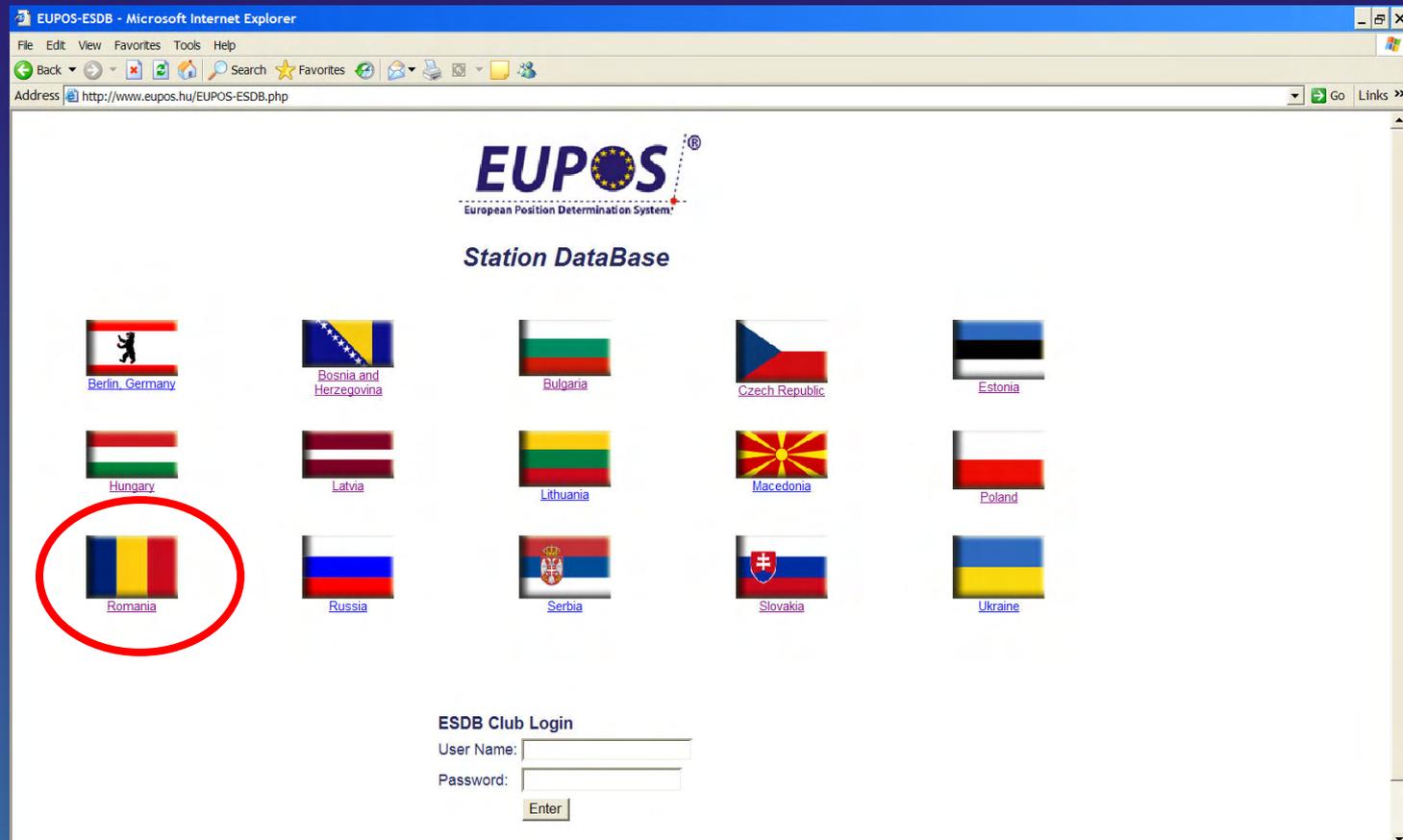


ROMPOS stations – 2012 : 75 stations

(black numbers – position of last 15 stations installed)



ROMPOS station information – included into EUPOS Station DataBase (IDs, coordinates, antenna, et al.)



EUPOS-ESDB - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites

Address <http://www.eupos.hu/EUPOS-ESDB.php> Go Links >>

EUPOS
European Position Determination System

Station DataBase


[Berlin, Germany](#)


[Bosnia and Herzegovina](#)


[Bulgaria](#)


[Czech Republic](#)


[Estonia](#)


[Hungary](#)


[Latvia](#)


[Lithuania](#)


[Macedonia](#)


[Poland](#)


[Romania](#)


[Russia](#)


[Serbia](#)


[Slovakia](#)


[Ukraine](#)

ESDB Club Login

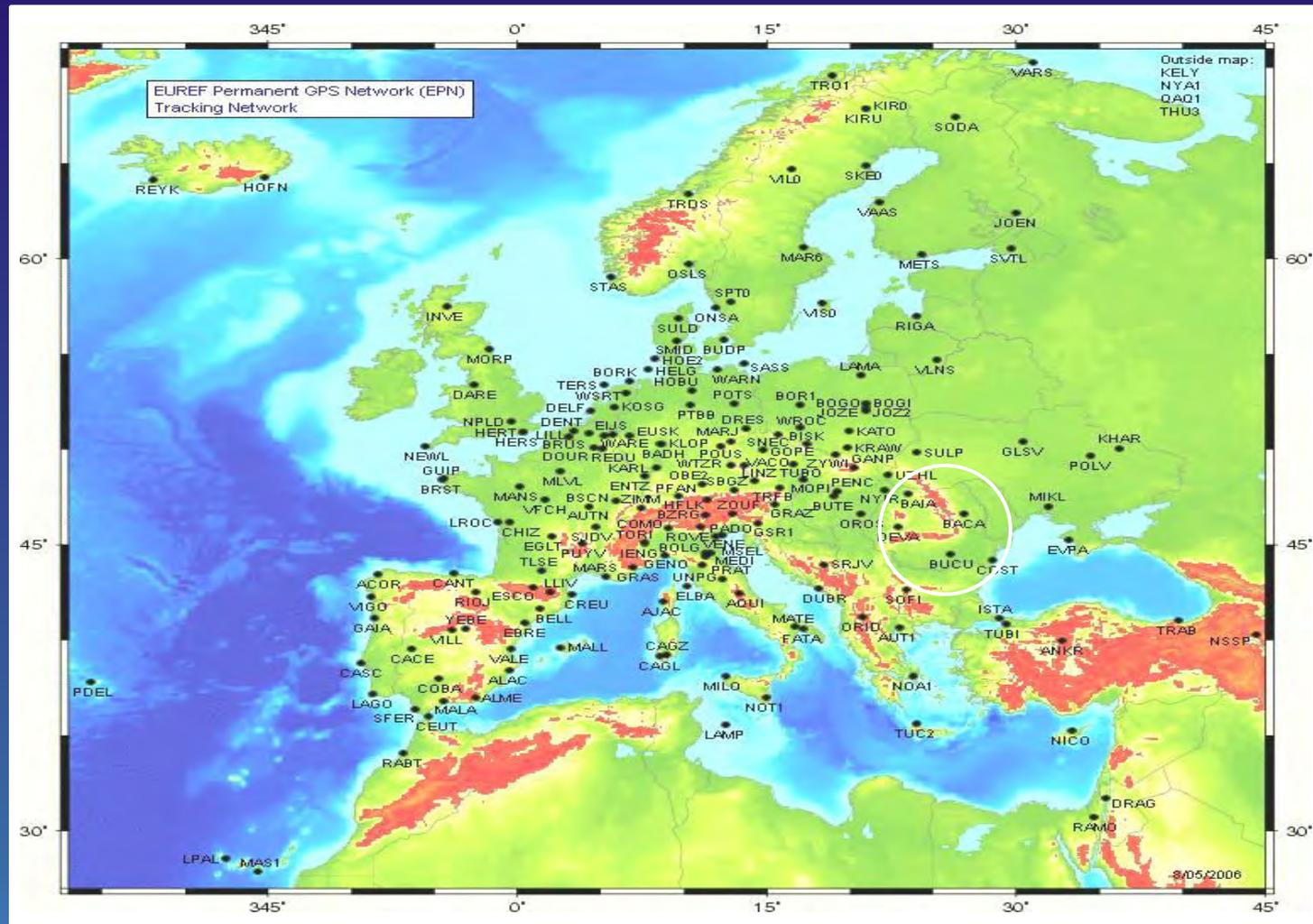
User Name:

Password:

EUREF-EPN stations – 5 stations

(1 GNSS and 4 GPS stations)

- BUCU-Bucharest - IGS*
- BACA-Bacau*
- BAIA-Baia Mare*
- COST-Constanta*
- DEVA-Deva*



Legend

- NN *EUPOS* member
- NN *EUPOS* associated country member
- NN *EUPOS* observer
- NN others

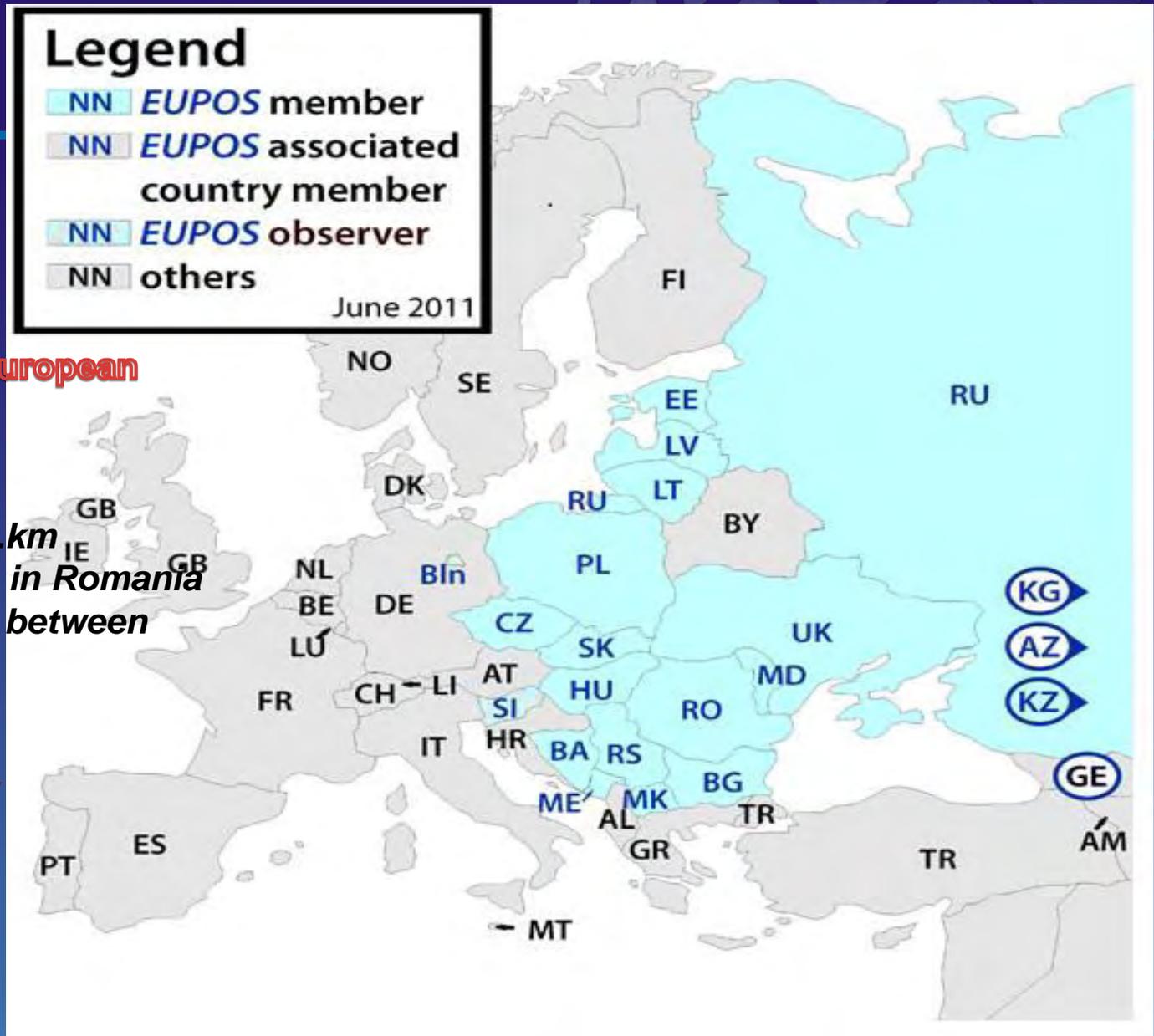
June 2011

Central and East European countries

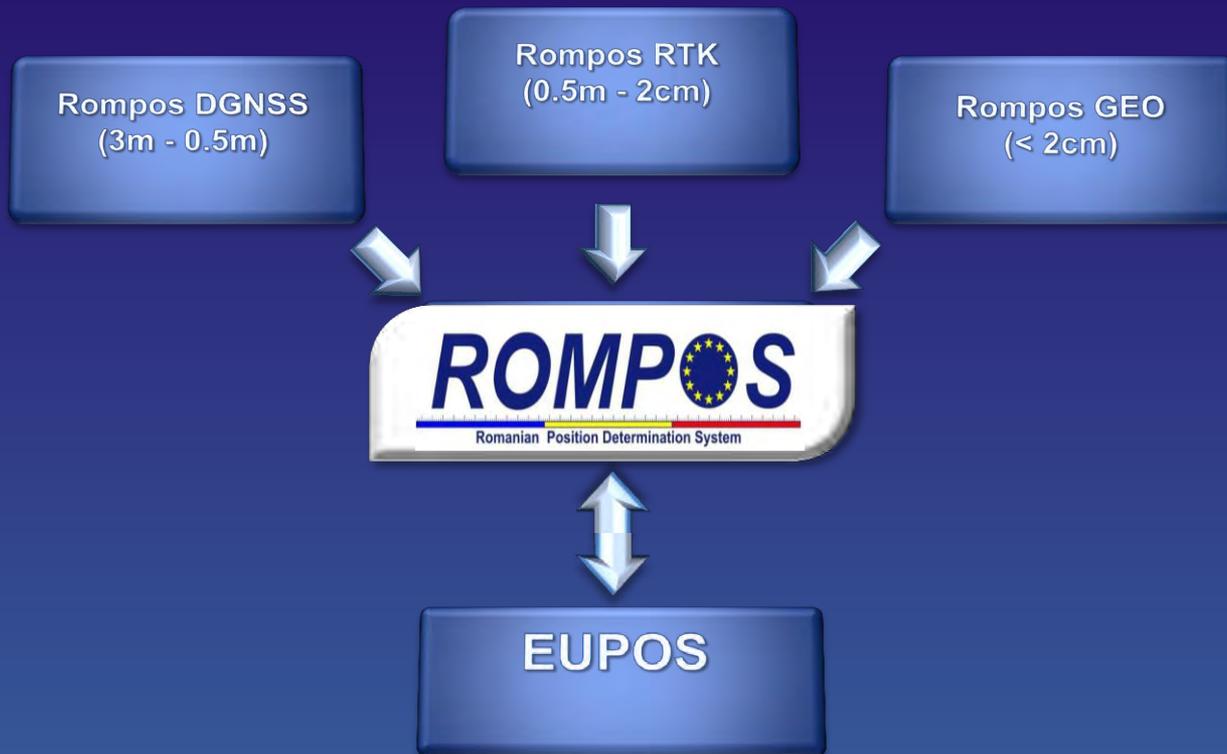
Romania

- Area - 237,500 sq.km
- 75 perm. stations in Romania
- Medium distance between stations: 70 km

<http://www.eupos.org>



ROMPOS services



EUPOS

18 Central and East European countries

More than 400 reference stations

Common standards

Similar products and services

Launched : September 2008

*ROMPOS-DGNSS&RTK – free
of charge*

ROMPOS-GEO - charged



The screenshot shows the ROMPOS web site interface. At the top, the browser address bar displays <http://gnss.rompos.ro/spiderweb/frmIndex.aspx>. The main header features the large **ROMPOS** logo with a yellow circle around the 'O', and the text "Romanian Position Determination System" below it. The ANCPI logo is visible in the top right corner. A navigation bar at the bottom of the header includes "Viewer" and language options "EN | RO | Sp".

The main content area is titled "SpiderWeb" and contains a "Site overview" section. On the left, there is a "Home" menu with links: Site overview, Register, Forgotten Password, Spider Business Center, Data Agreements, NOVA maps, RINEX files availability, Romanian GNSS Network, and ROMPOS Home. Below the menu is a "Login" section with fields for "User Name:" and "Password:", a "Remember me" checkbox, and a "Login" button. A note indicates that the asterisk (*) fields are required.

The "Site overview" section includes a "Jump to site:" label, a "select site" dropdown menu, and a "Select" button. Below this is a satellite map of Romania and surrounding areas, showing various locations marked with blue and yellow pins. The map includes labels for cities like Cluj-Napoca, Baia Mare, and Chisinau, and neighboring countries like Moldova and Ukraine.

Cross border data exchange

Data exchange with
 neighbour
 countries:

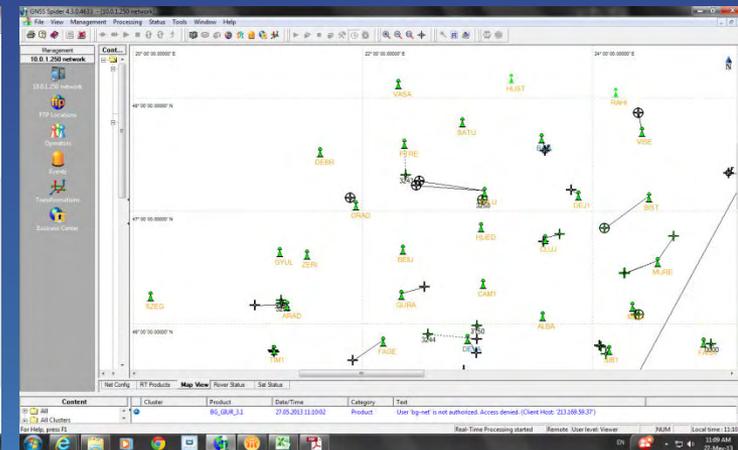
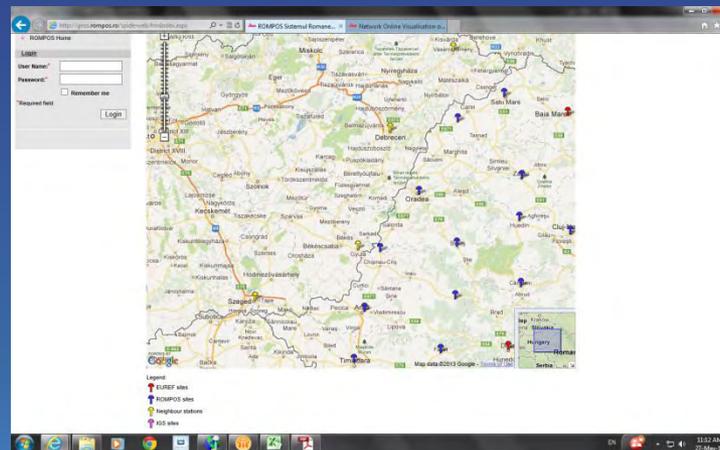
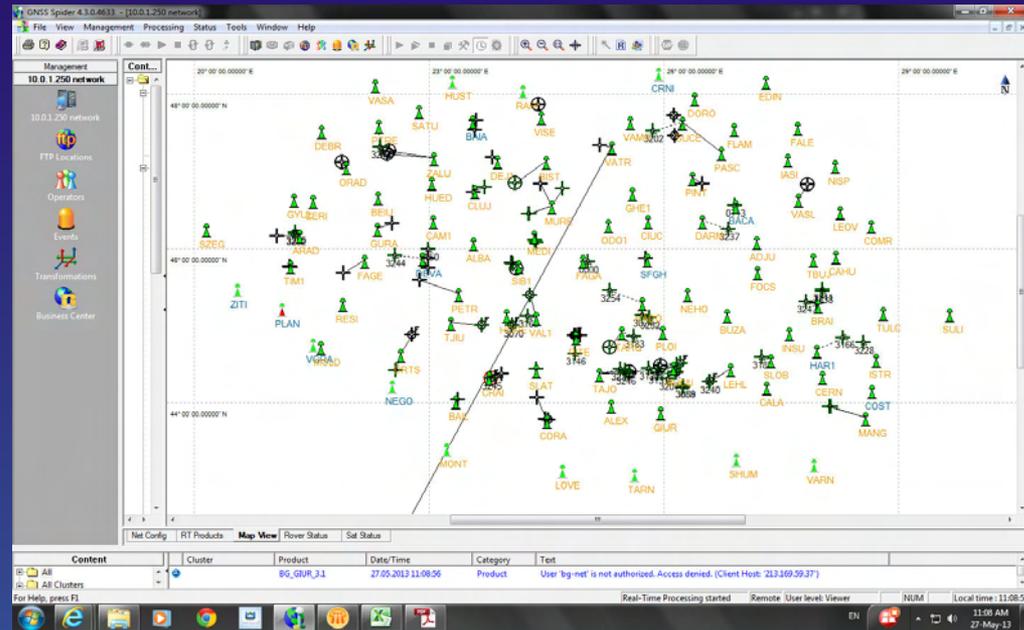
HU: 4 stations

RS: 4 stations

BG: 5 stations

MD: 6 stations

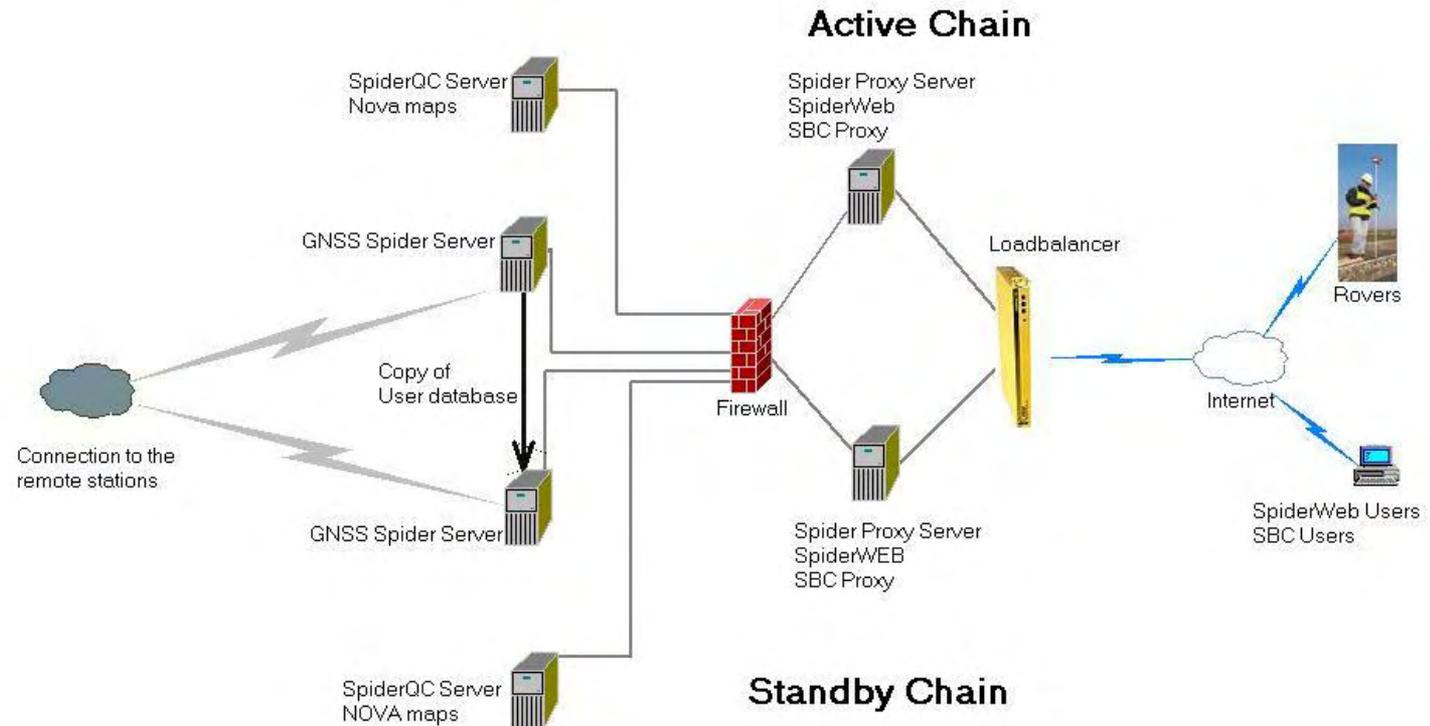
UA: 4 stations



2. Technical developments we are working on

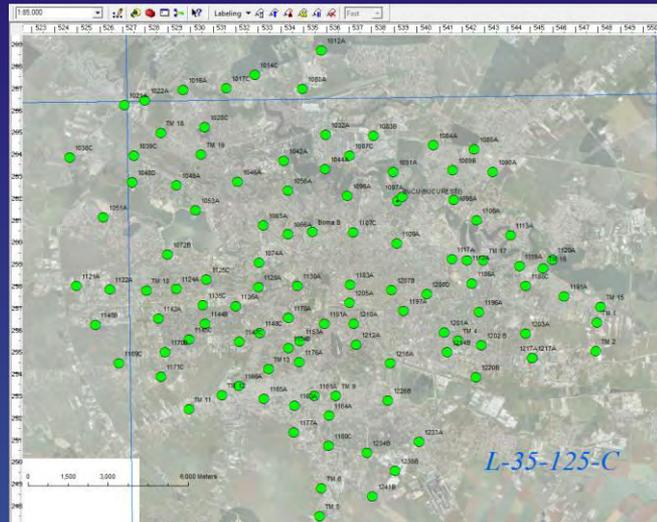
✓ *Back-up solution for ROMPOS servers*

*Networking software achieved and installed in May 2009
 (7 servers ; 4 clusters; up to 9Tb)*



✓ Developing of a precise national gravimetric quasigeoid model for Romania

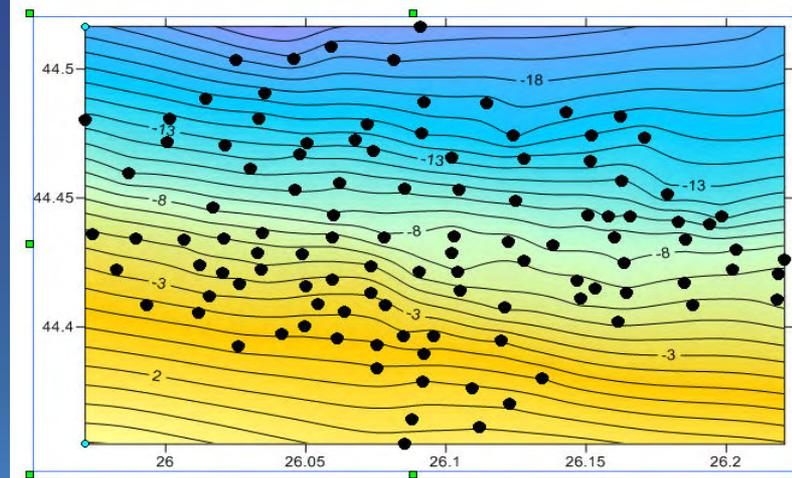
❖ now available only for Bucharest area



- 114 points
- 3 kind of determinations: gravimetric and GNSS / levelling;
- standard deviation of high anomaly: ± 0.039 m

Main statistics of the new quasigeoid model

Statistic	[m]
Min.=	-0.118
Max.=	0.127
Average=	0.002
Std deviation=	0.039





Thank you!

References

- Ordinul nr. 634/2006 pentru aprobarea Regulamentului privind conținutul și modul de întocmire a documentațiilor cadastrale în vederea înscrierii în cartea funciară;
- Decizia nr.1/2008 a Directorului Direcției de Geodezie și Cartografie din cadrul ANCPI privind realizarea măsurătorilor GNSS cinemactice;
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- European Position Determination System, Technical Standards, Revised 2nd Edition, 24 April 2008, Resolution of the International EUPOS® Steering Committee, 13th Conference, Bucharest, Romania, 23 – 24 April 2008
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- T. Rus, P.Dragomir, N. Avramiuc, P.Dumitru, M.Fădur, V.Sorta - ROMPOS for Cadastre Applications, International Symposium on Global Navigation Satellite Systems, Space-Based and Ground-Based Augmentation Systems and Applications 2009; Berlin, Germany, 30 November - 2 December 2009.

www.rompos.ro

www.ancpi.ro

www.eupos.org