

**- 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)

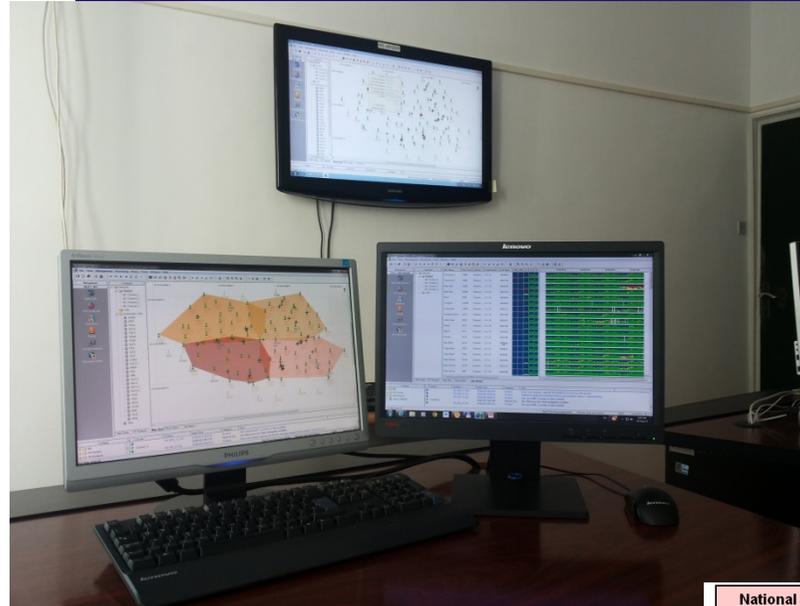
ETRS89 official introduced

<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 ✓ <i>(2003)</i>
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**

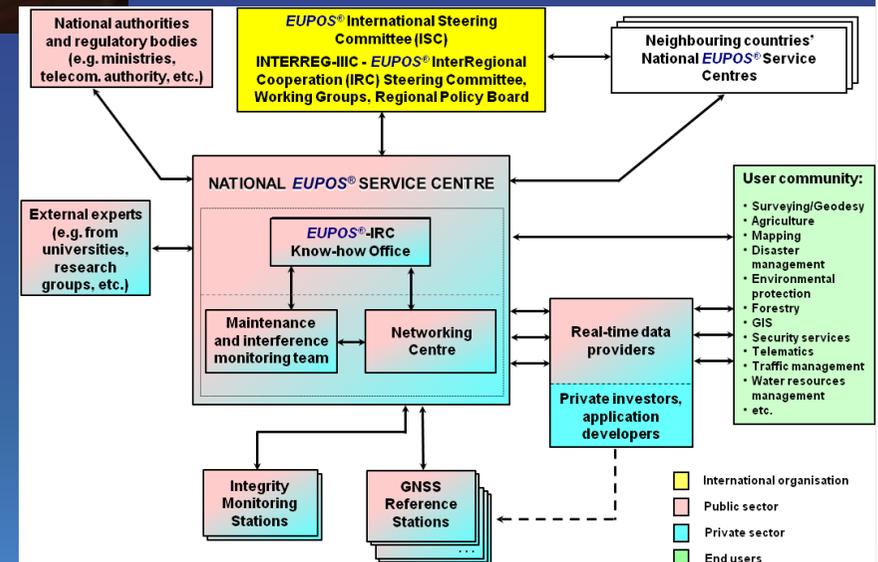


National Center for ROMPOS Services

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

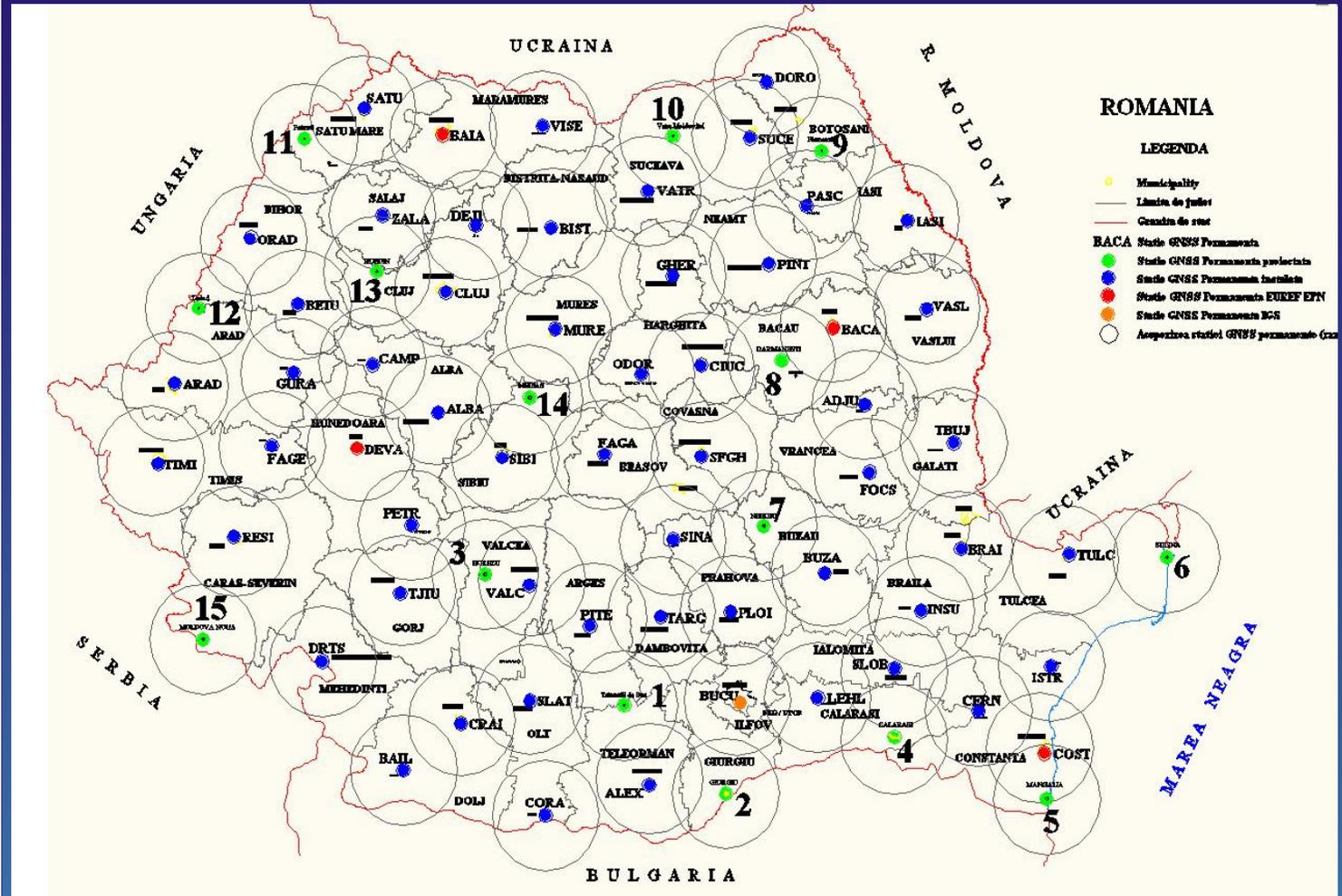
ROMPOS = Registered mark in Romania

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

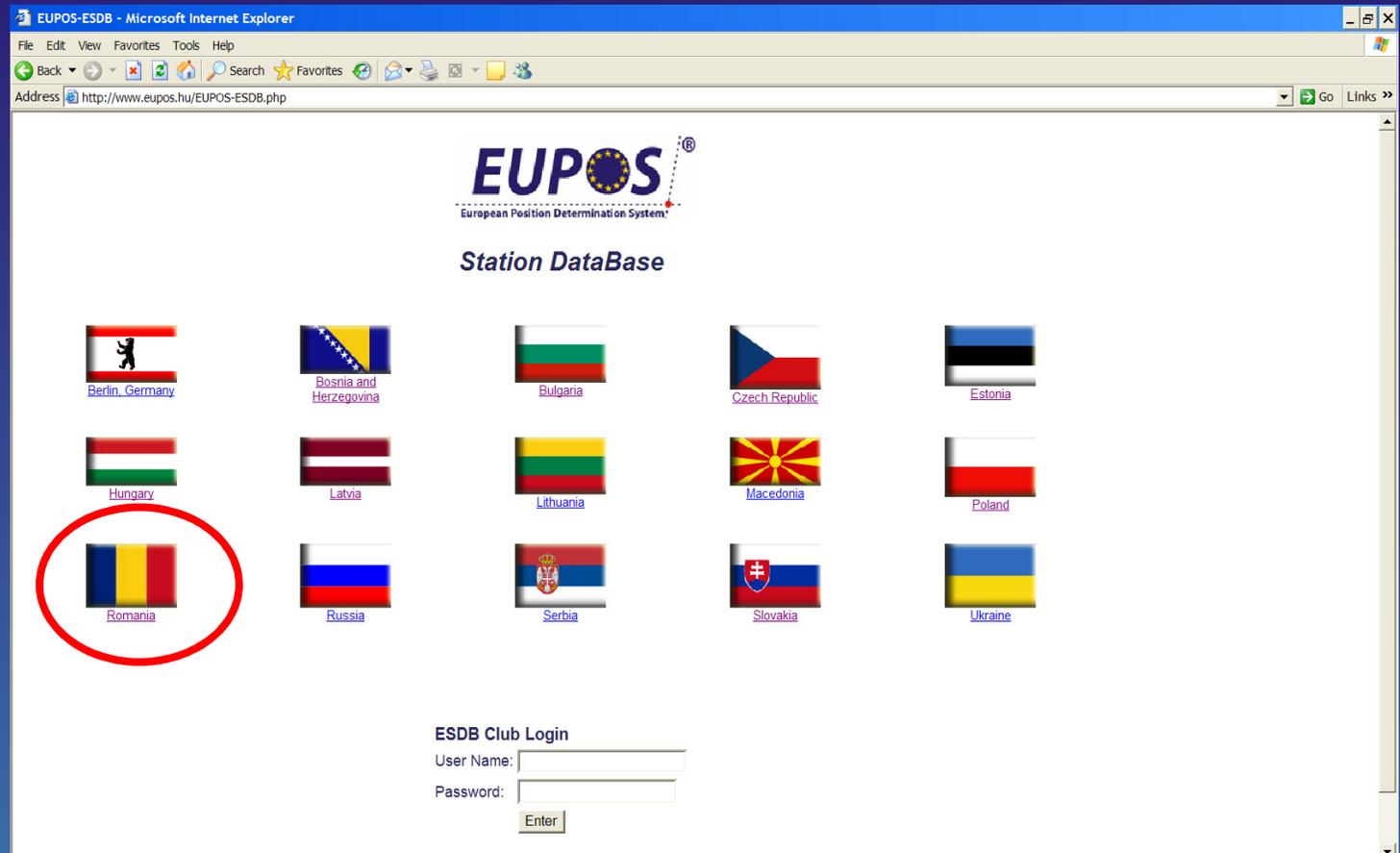


ROMPOS stations – 2012 : 75 stations

(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)

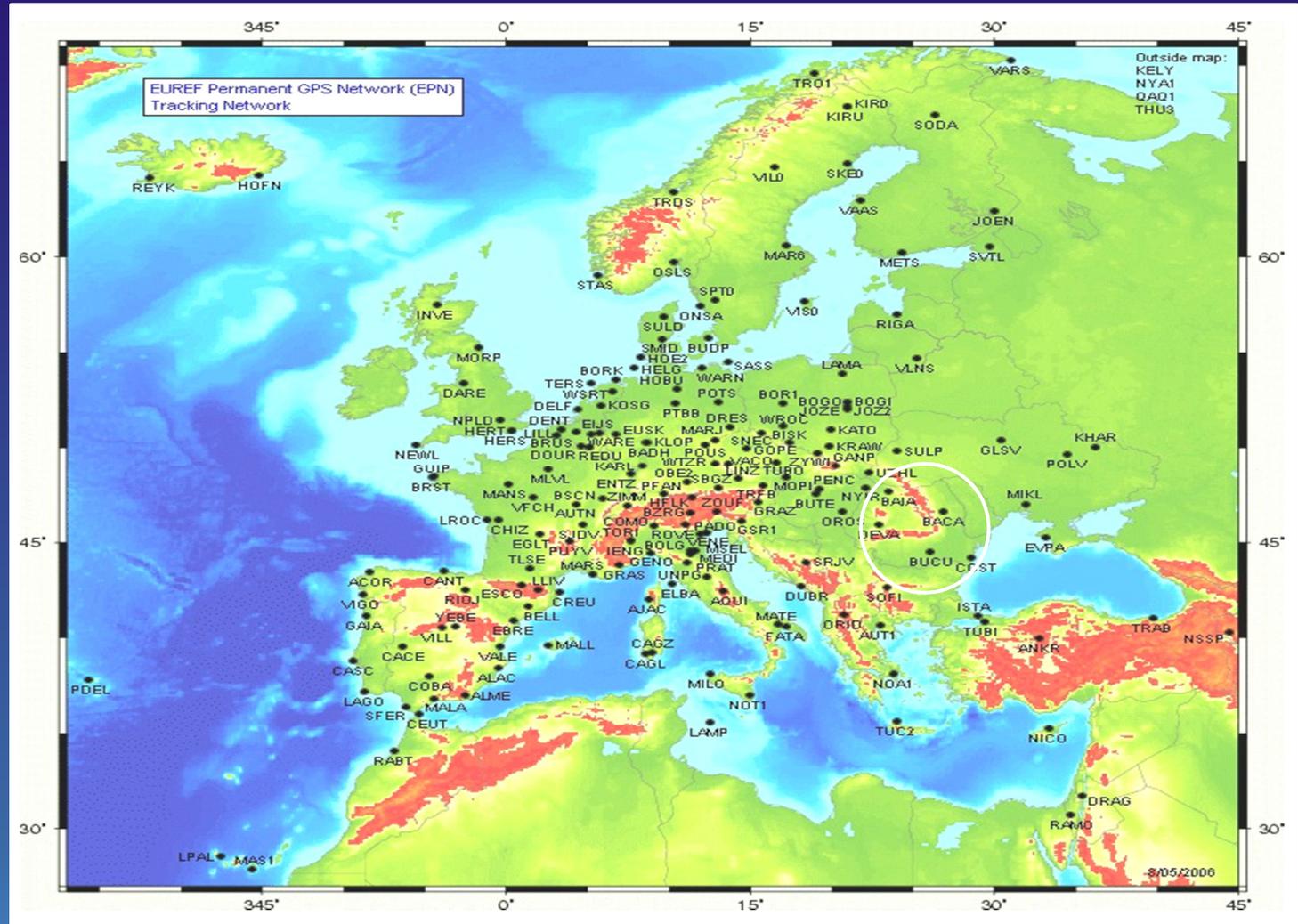
BUCU-Bucharest - IGS

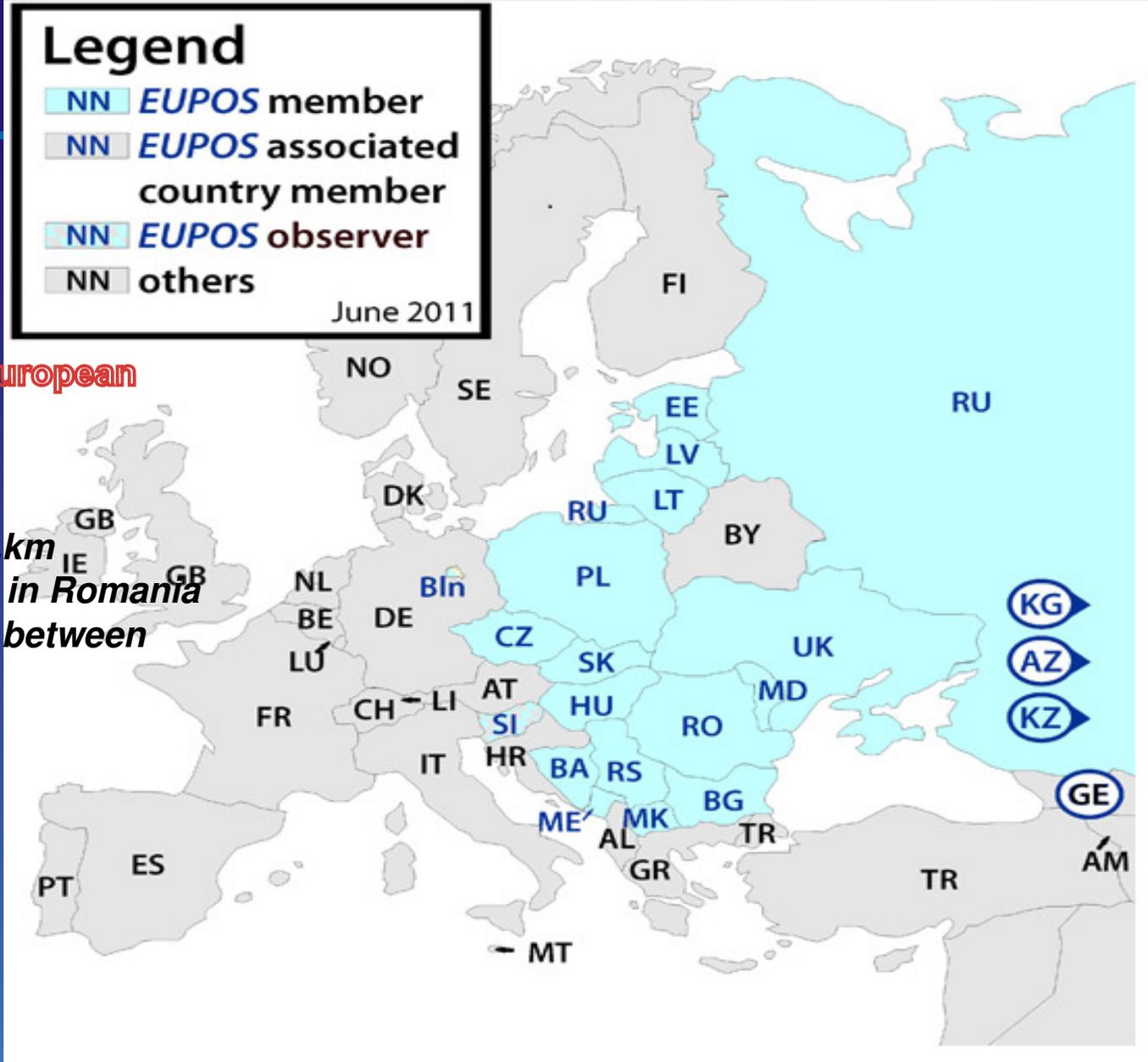
BACA-Bacau

BAIA-Baia Mare

COST-Constanta

DEVA-Deva





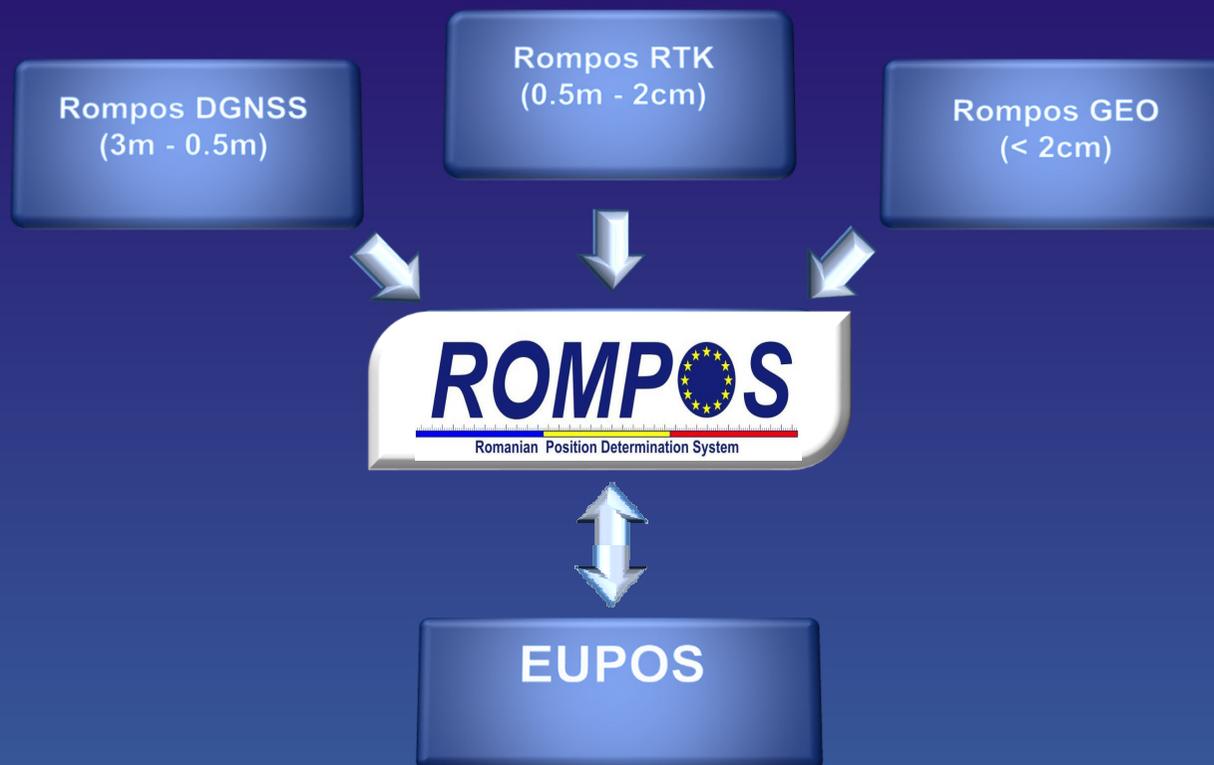
Central and East European countries

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

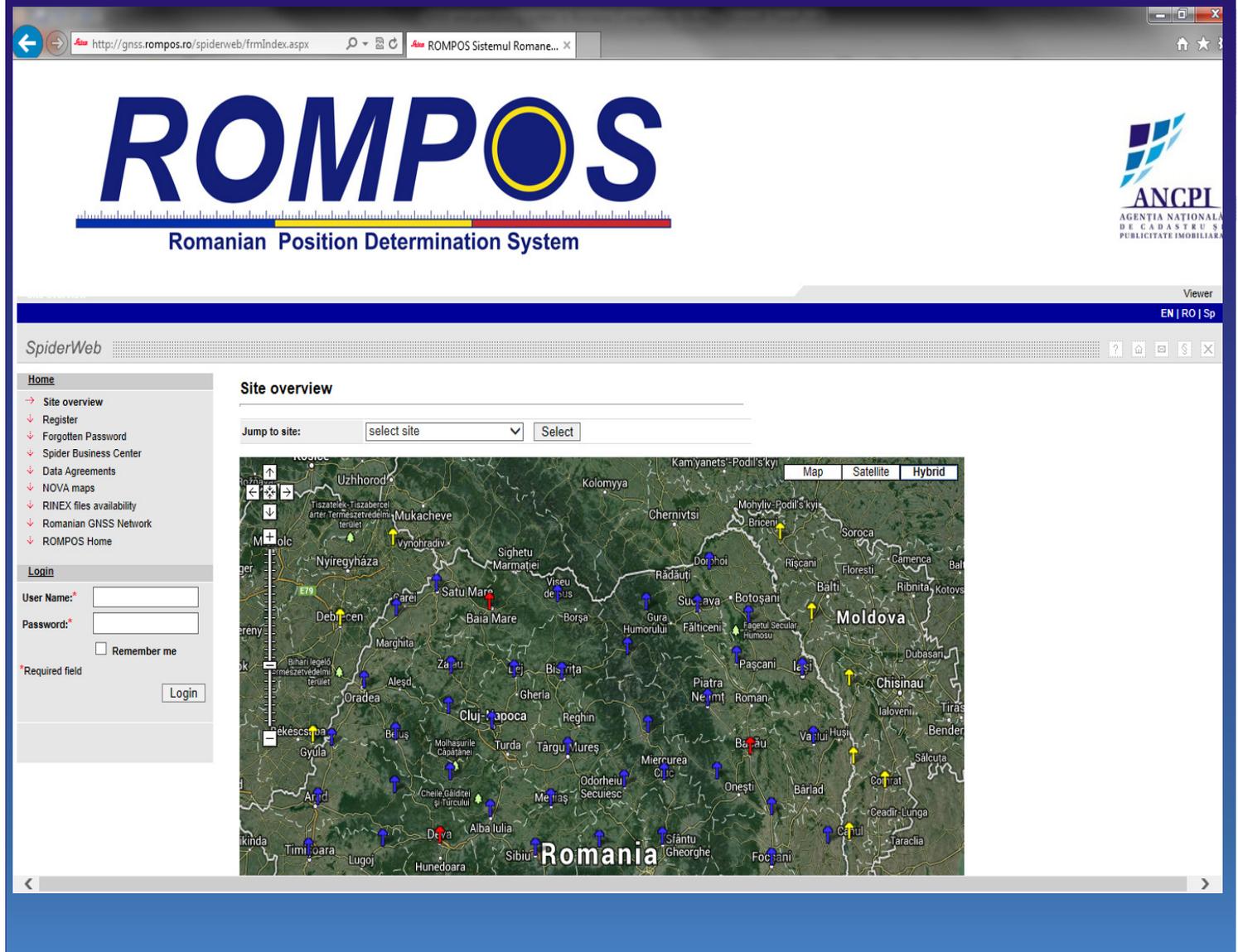
Launched : September 2008

*ROMPOS-DGNSS&RTK – free
of charge*

ROMPOS-GEO - charged

ROMPOS web site

www.rompos.ro



The screenshot shows the ROMPOS web site interface. At the top, the URL is <http://gns.rompos.ro/spiderweb/fmIndex.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.

Below the header, there is a navigation bar with "Viewer" and language options "EN | RO | Sp". The main content area is titled "SpiderWeb" and includes a "Home" sidebar with a menu:

- Home
- Site overview
- ↓ Register
- ↓ Forgotten Password
- ↓ Spider Business Center
- ↓ Data Agreements
- ↓ NOVA maps
- ↓ RINEX files availability
- ↓ Romanian GNSS Network
- ↓ 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 "Required field" message is present below the password field.

The main content area is titled "Site overview" and contains a "Jump to site:" dropdown menu with "select site" and a "Select" button. Below this is a map of Romania and Moldova, showing various GNSS stations marked with blue and yellow arrows. The map includes labels for cities like Cluj-Napoca, Sibiu, and Baia Mare, and neighboring countries like Moldova and Ukraine. Map controls for "Map", "Satellite", and "Hybrid" views are visible at the top right of the map area.

Cross border data exchange

Data exchange with
 neighbour
 countries:

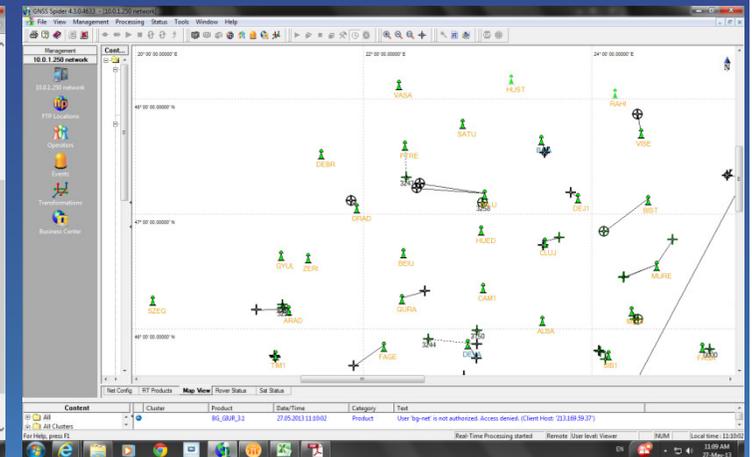
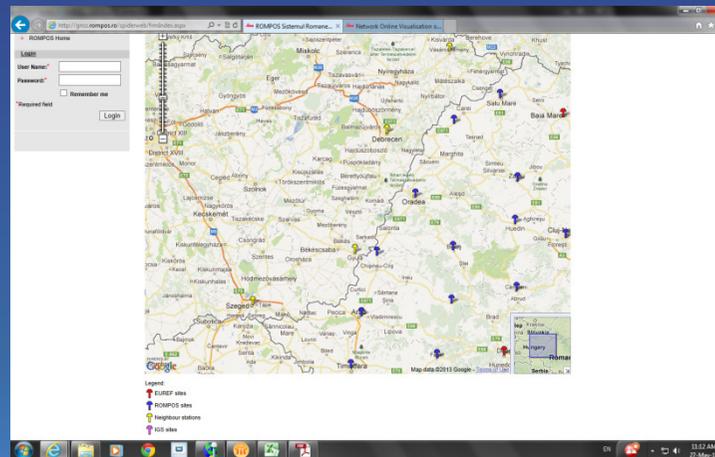
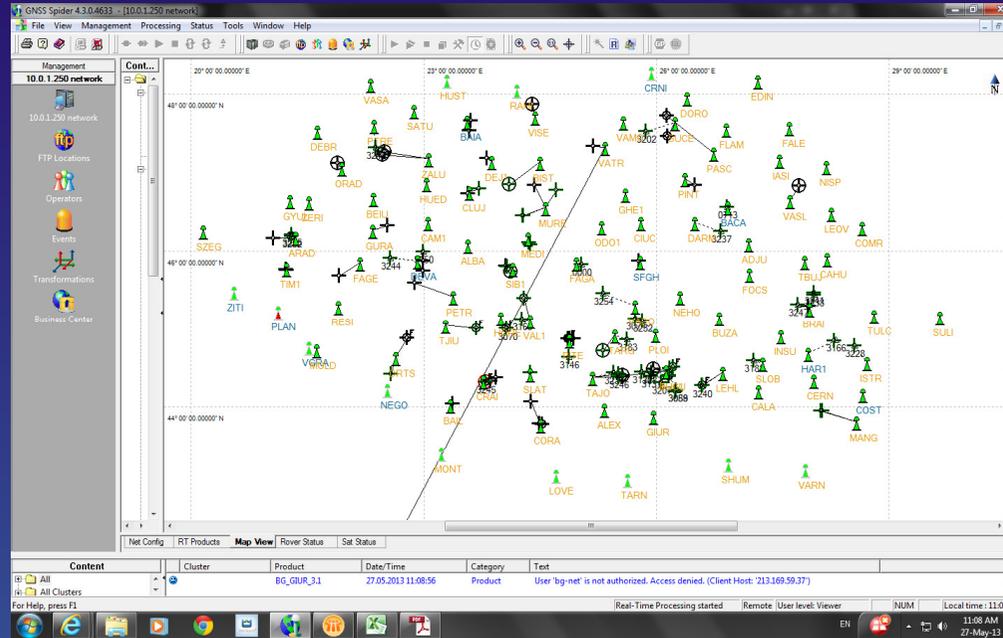
HU: 4 stations

RS: 4 stations

BG: 5 stations

MD: 6 stations

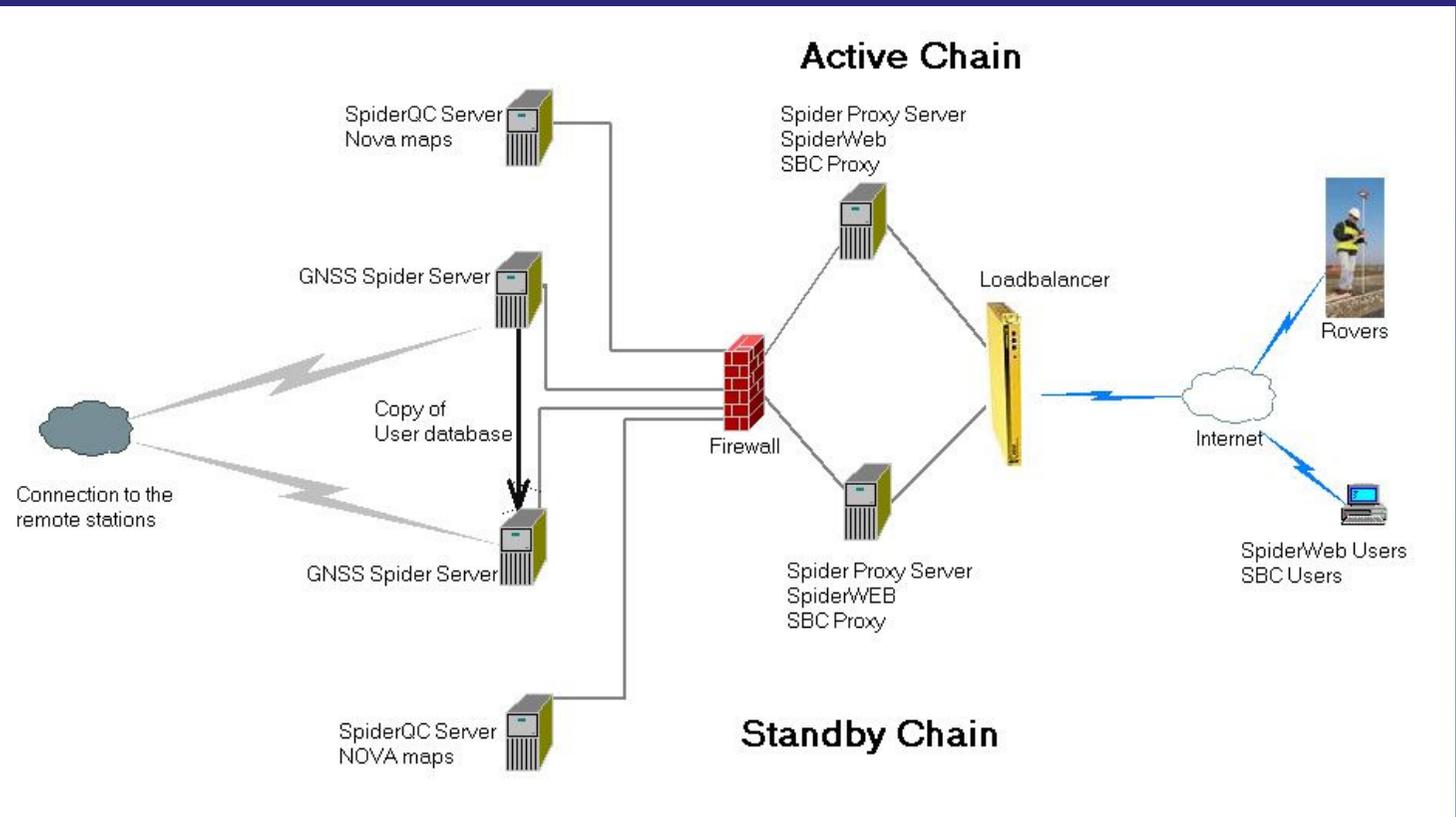
UA: 4 stations



2. Technical developments we are working on

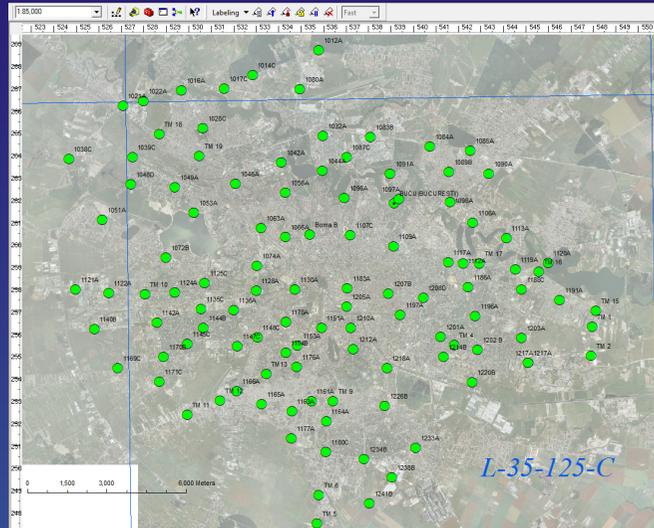
✓ *Back-up solution for ROMPOS servers*

*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*

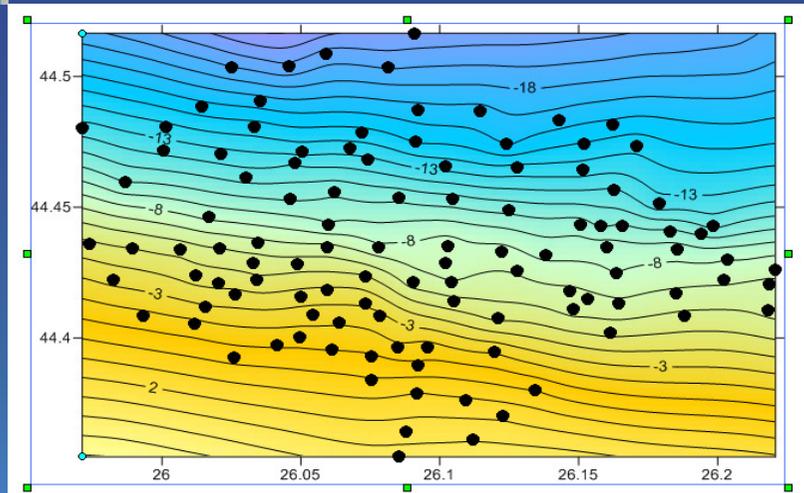
❖ **now available only for Bucharest area**



- 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 cinematice;
- Dragomir P., T.Rus, P.Dumitru, *Integrarea Rețelei Naționale de Stații GPS Permanente în Rețeaua Europeană EUPOS*, conferință Tehnologii Moderne pentru Mileniul III, Oradea, 2005
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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.ancpl.ro

www.eupos.org