

***- 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 cityzens 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)

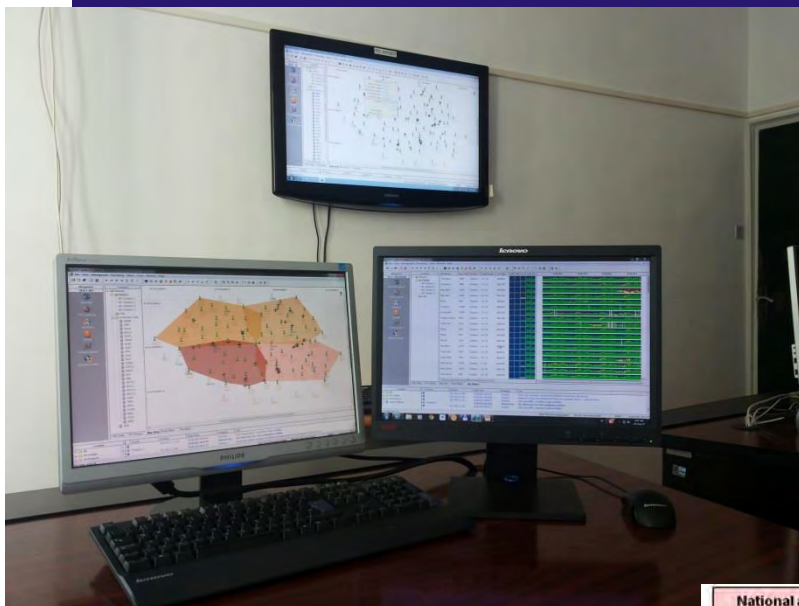
ETRS89 official introduced

<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</i> <i>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

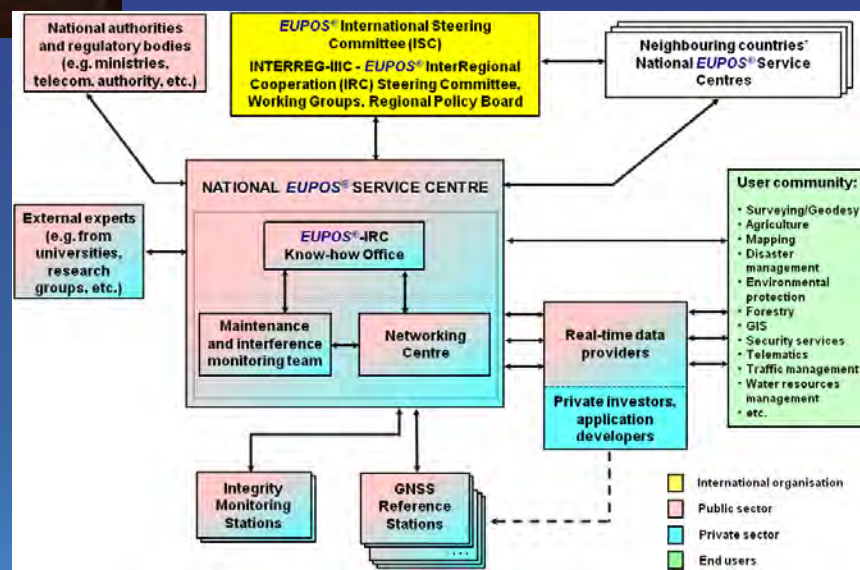


National Center for ROMPOS Services

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

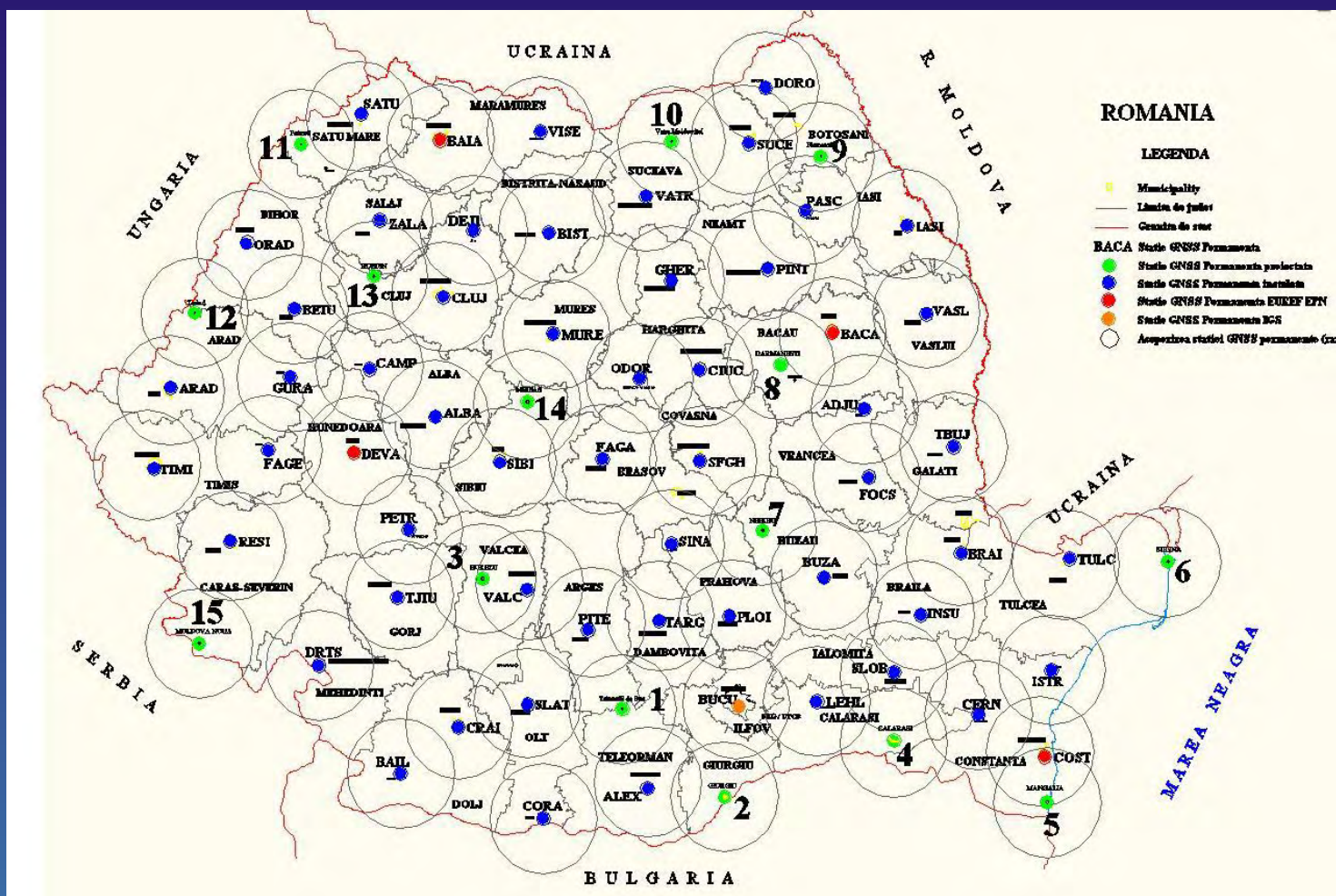
ROMPOS = Registered mark in Romania

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 Reload 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:

Legend

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

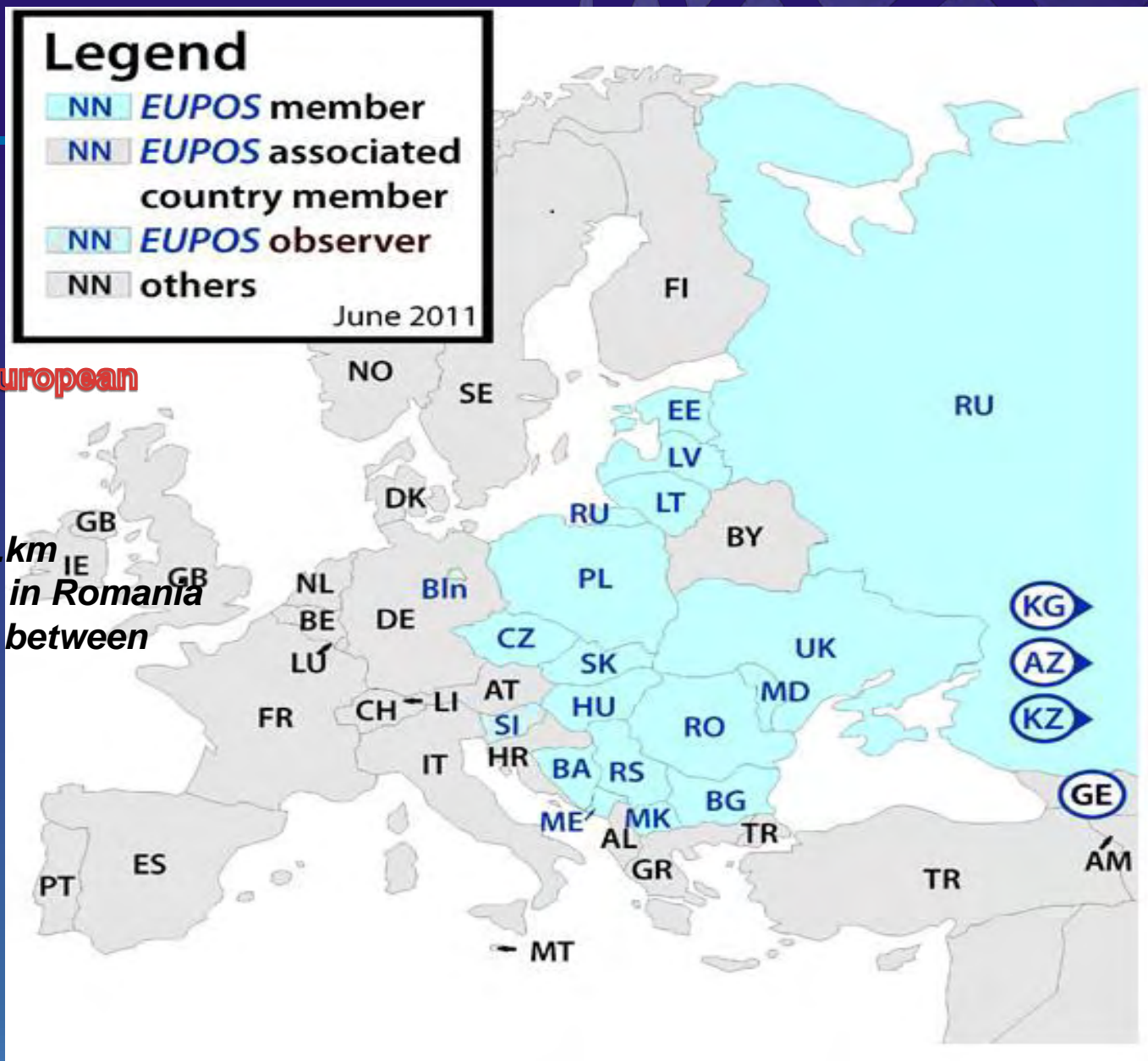
June 2011

Central and East European countries

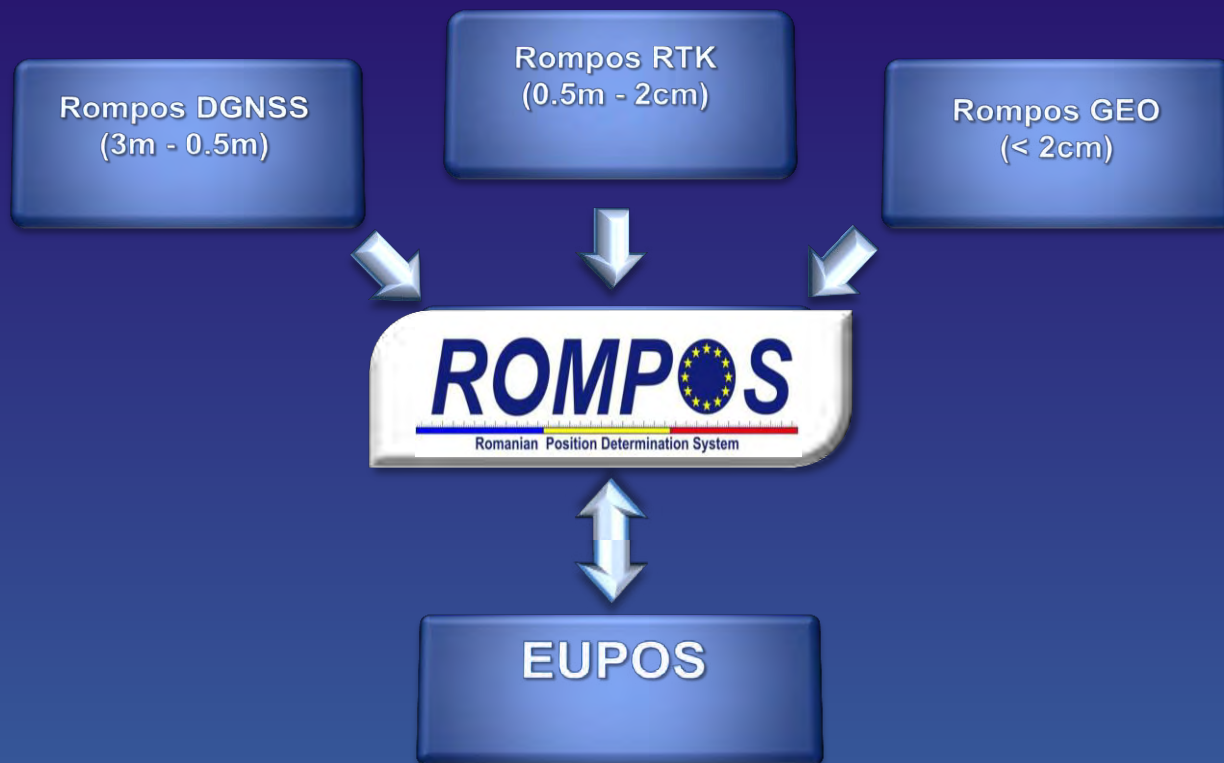
Romania

- 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

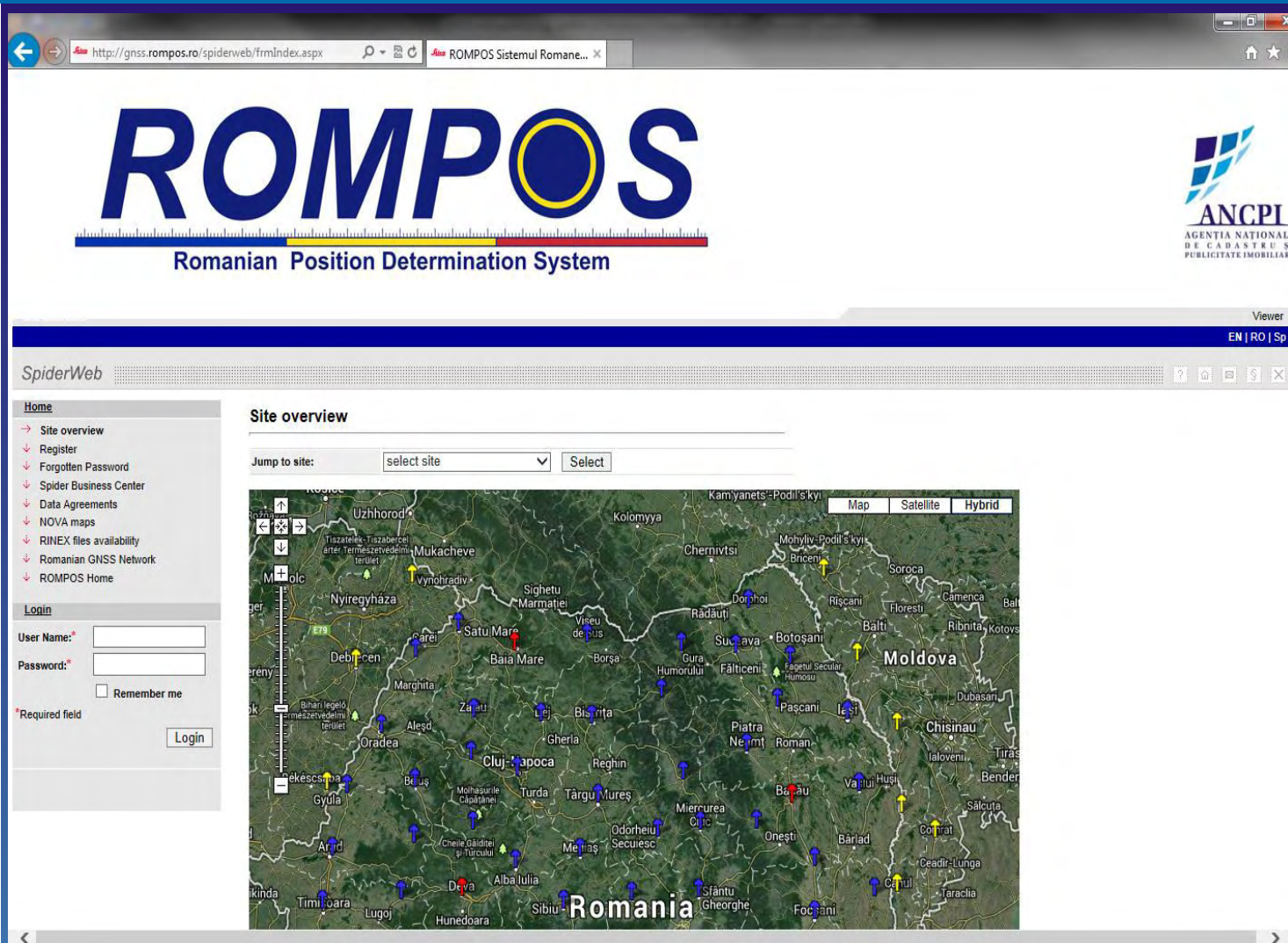
Launched : September 2008

*ROMPOS-DGNSS&RTK – free
of charge*

ROMPOS-GEO - charged

ROMPOS web site

www.rompos.ro



The screenshot shows the ROMPOS web site interface. At the top, there is a navigation bar with the ROMPOS logo and the text "Romanian Position Determination System". Below this, there is a "SpiderWeb" section with a "Home" link and a "Login" form. The "Login" form includes fields for "User Name:" and "Password:", a "Remember me" checkbox, and a "Login" button. To the right of the login form is a "Site overview" section with a "Jump to site:" dropdown menu and a "Select" button. Below these sections is a map of Romania and surrounding areas, showing various cities and locations. The map is labeled "Romania" and "Moldova".

Cross border data exchange

Data exchange with
neighbour
countries:

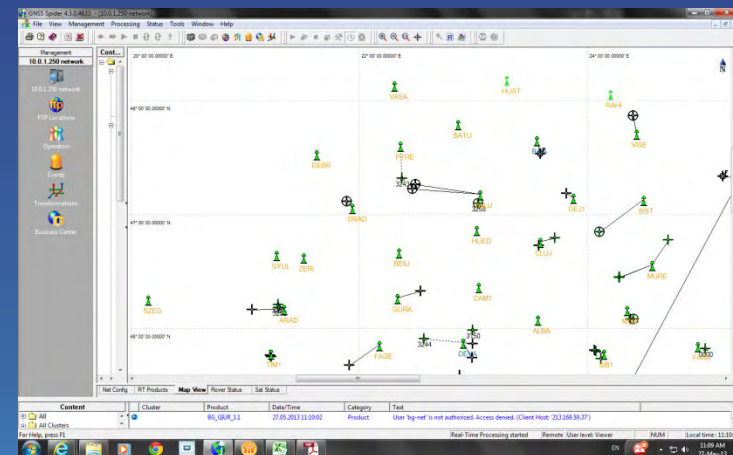
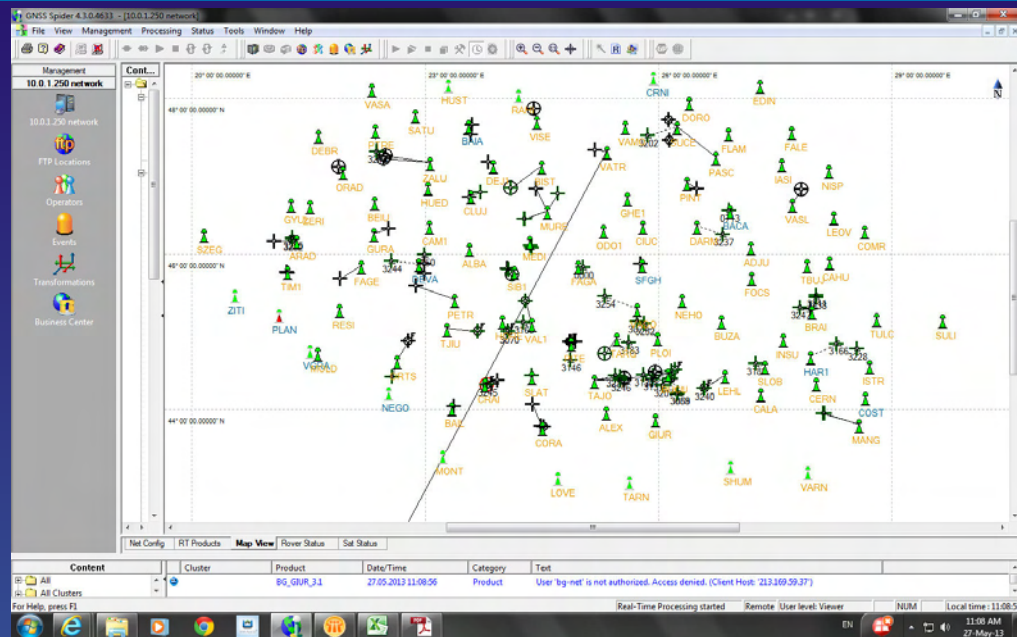
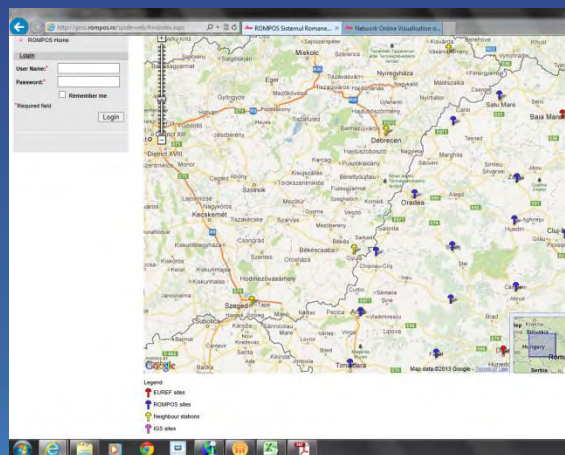
HU: 4 stations

RS: 4 stations

BG: 5 stations

MD: 6 stations

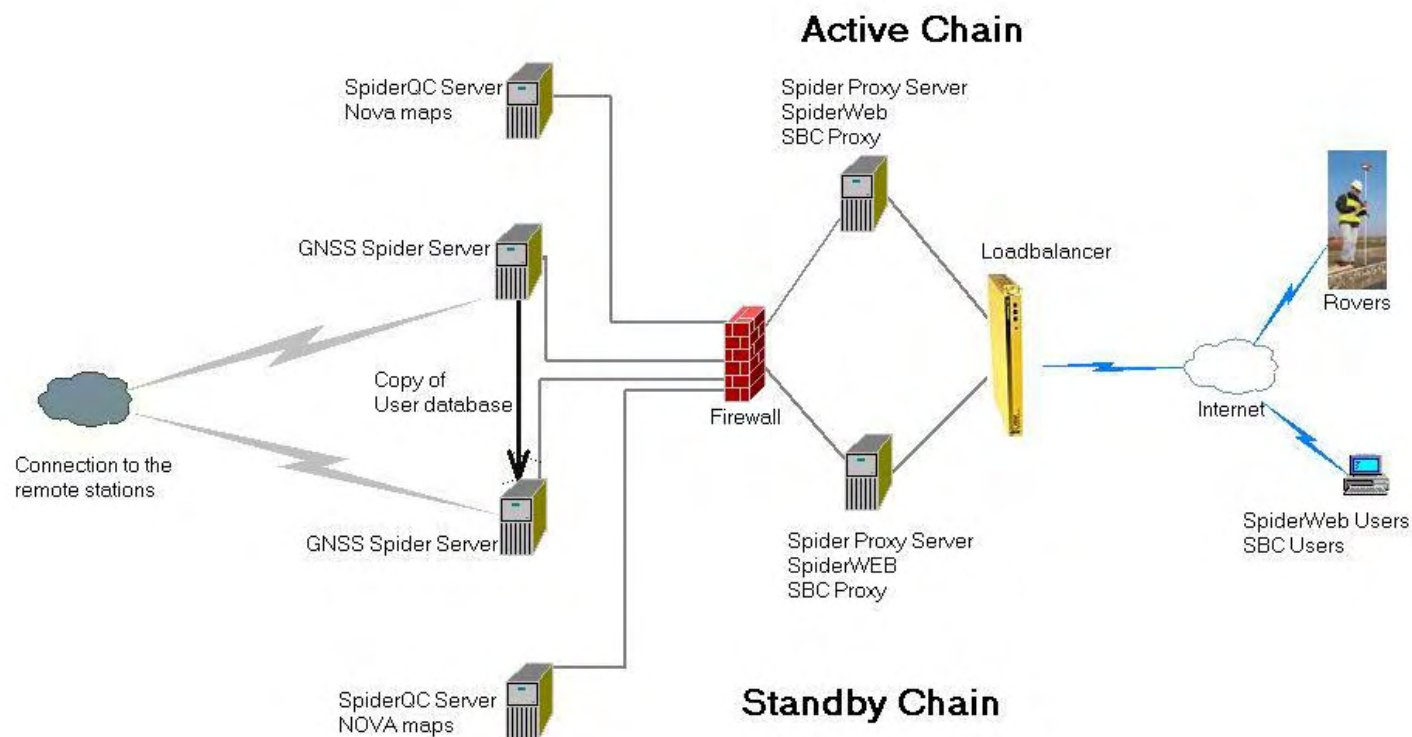
UA: 4 stations



2. Technical developments we are working on

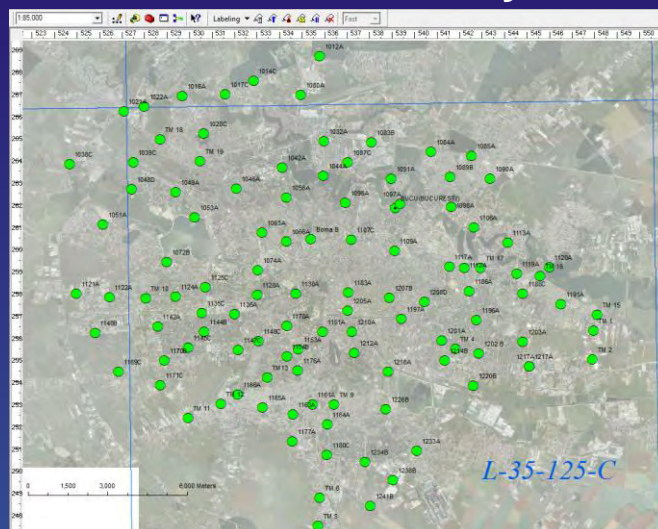
✓ **Back-up solution for ROMPOS servers**

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

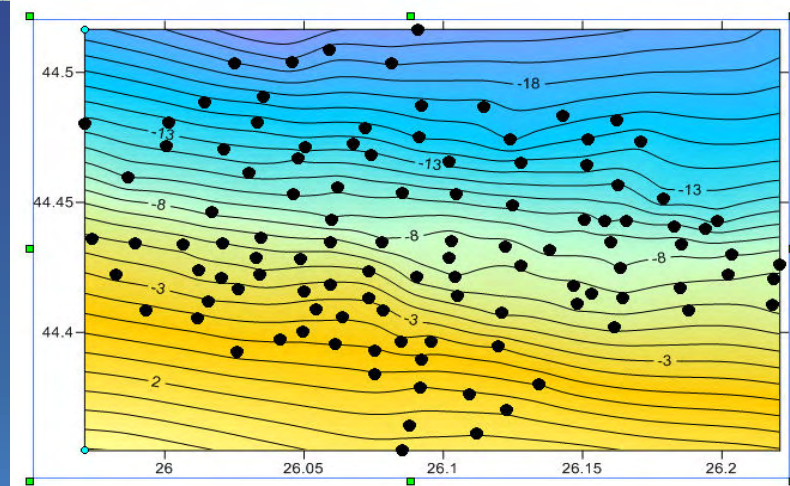
❖ now available only for Bucharest area



- 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 măsurărilor 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
- 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
- European Position Determination System, *Guidelines For Cross-Border Data Exchange*, Version 1.0, 21 September 2006
- ROMPOS - Sistemul Românesc de Determinare a Poziției, Broșura editată de ANCPI, septembrie 2008;
- 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