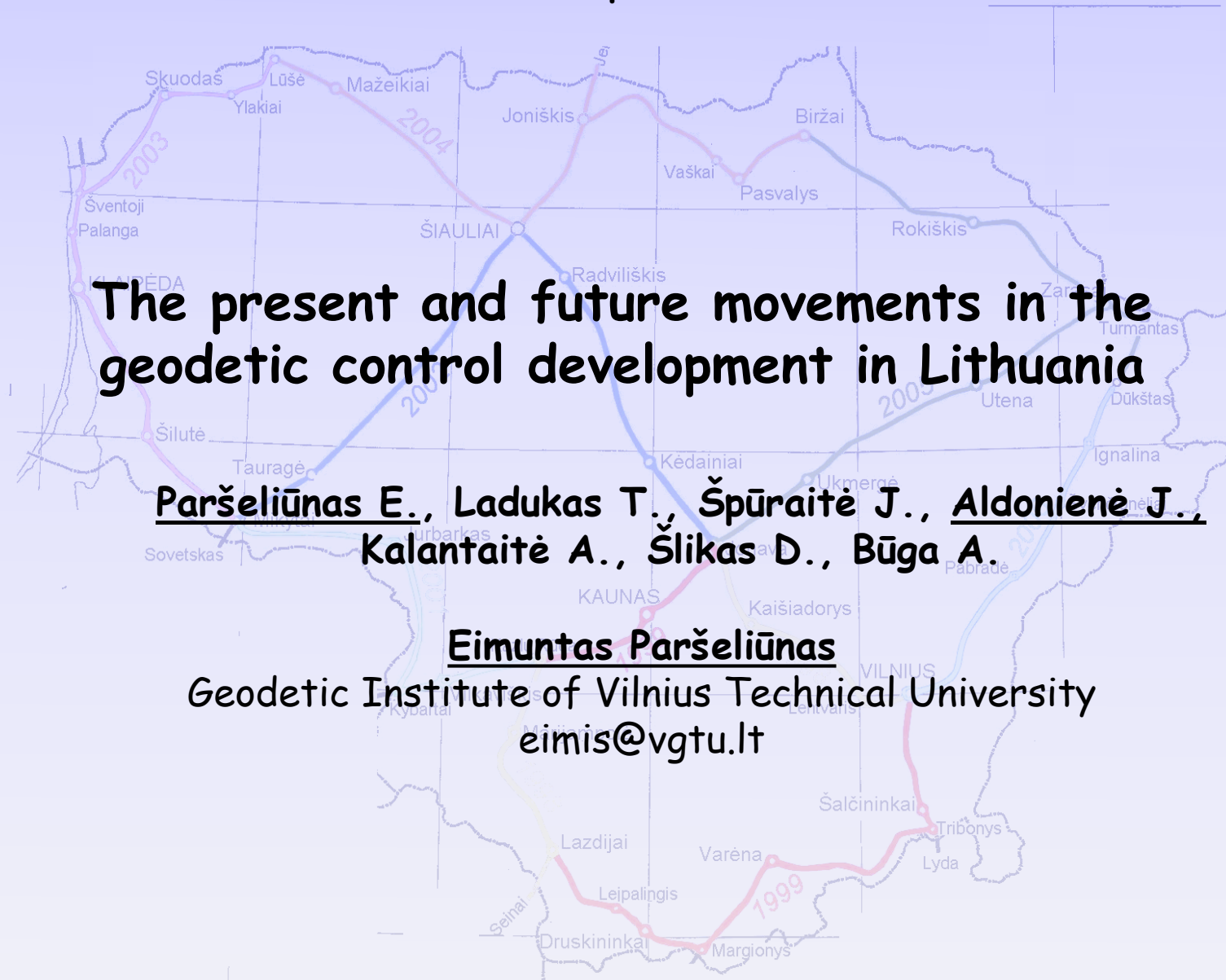




The present and future movements in the geodetic control development in Lithuania

Paršeliūnas E., Ladukas T., Špūraitė J., Aldonienė J.,
Kalantaitė A., Šlikas D., Būga A.

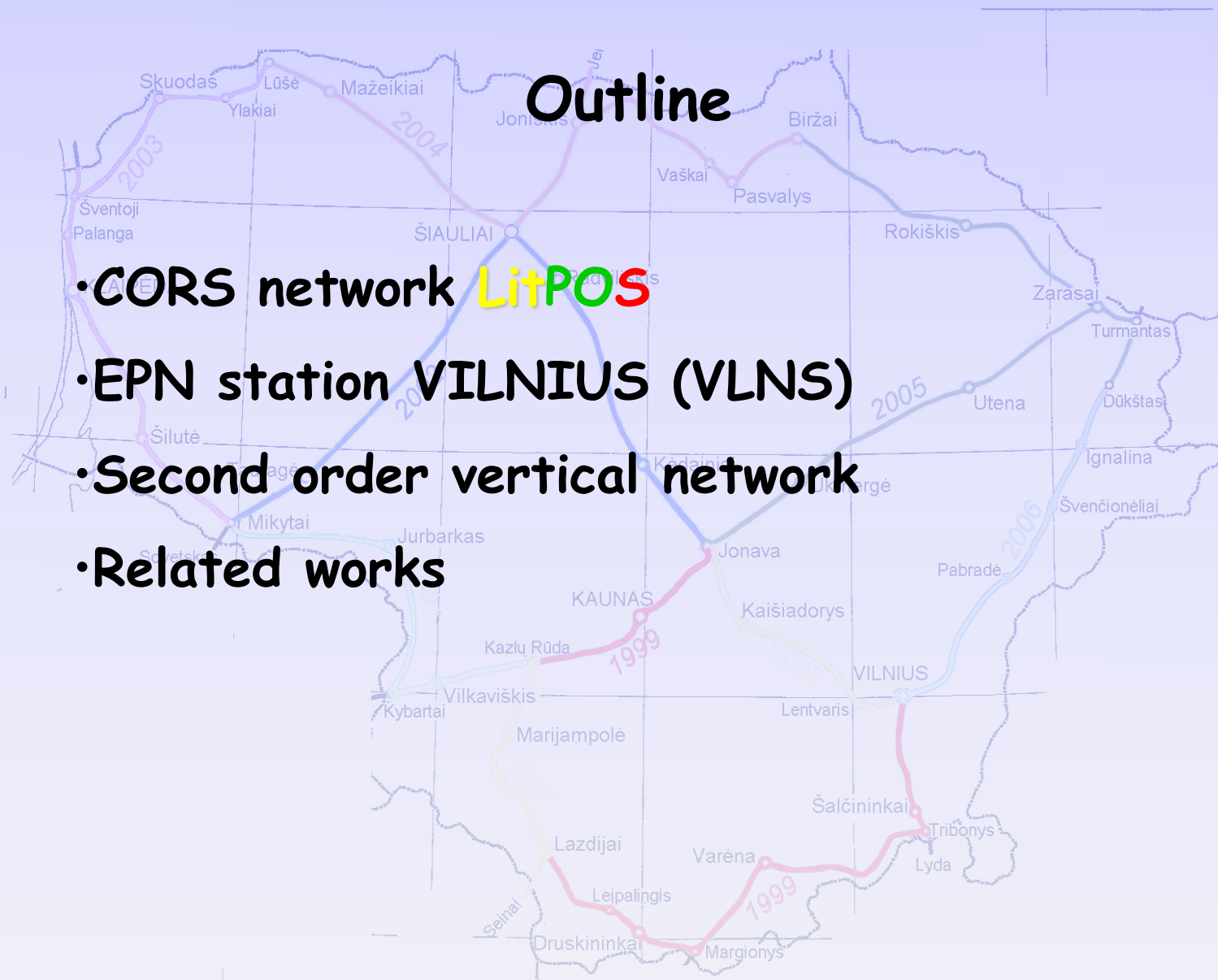
Eimuntas Paršeliūnas

Geodetic Institute of Vilnius Technical University

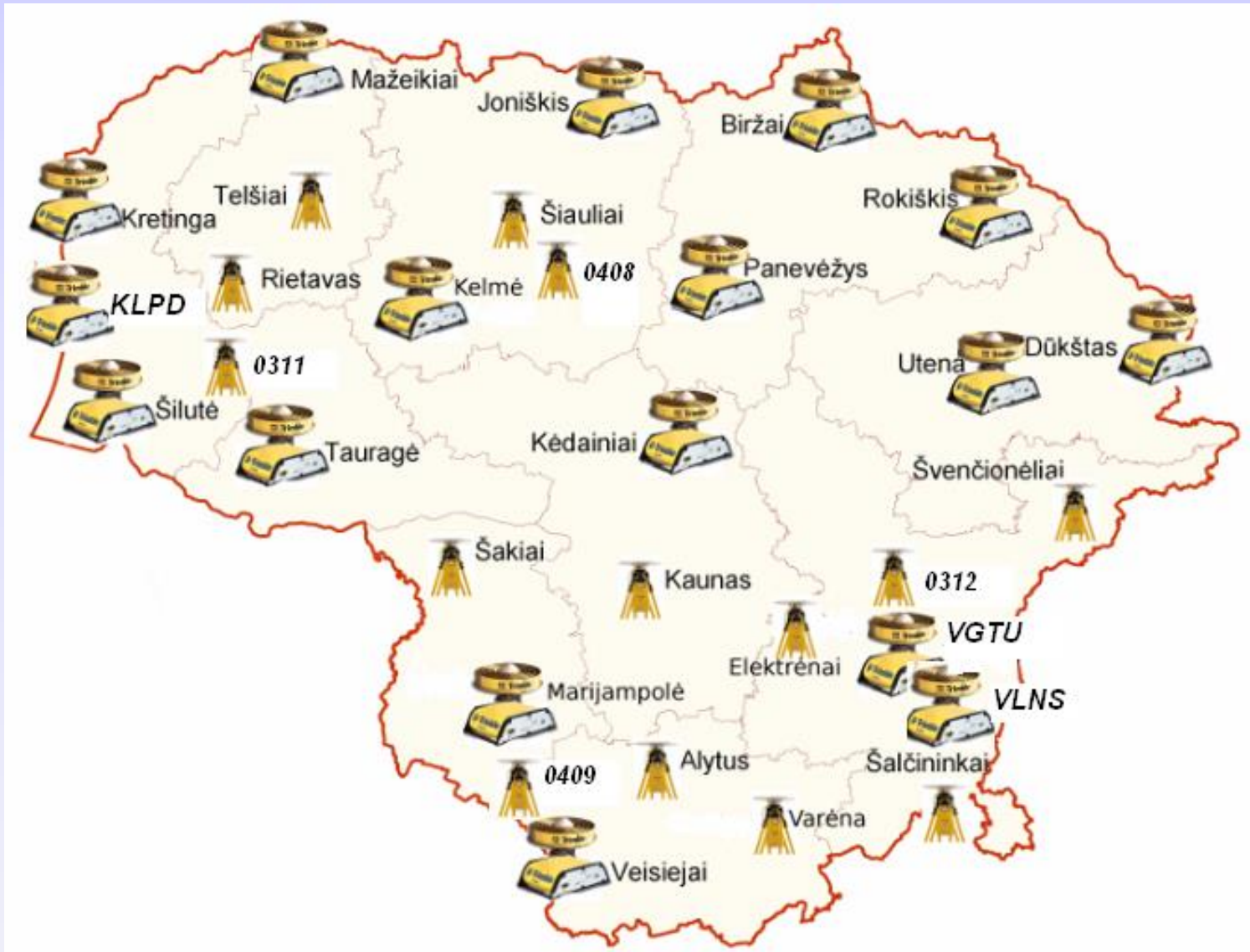
eimis@vgtu.lt

Outline

- CORS network **LitPOS**
- EPN station **VILNIUS (VLNS)**
- Second order vertical network
- Related works



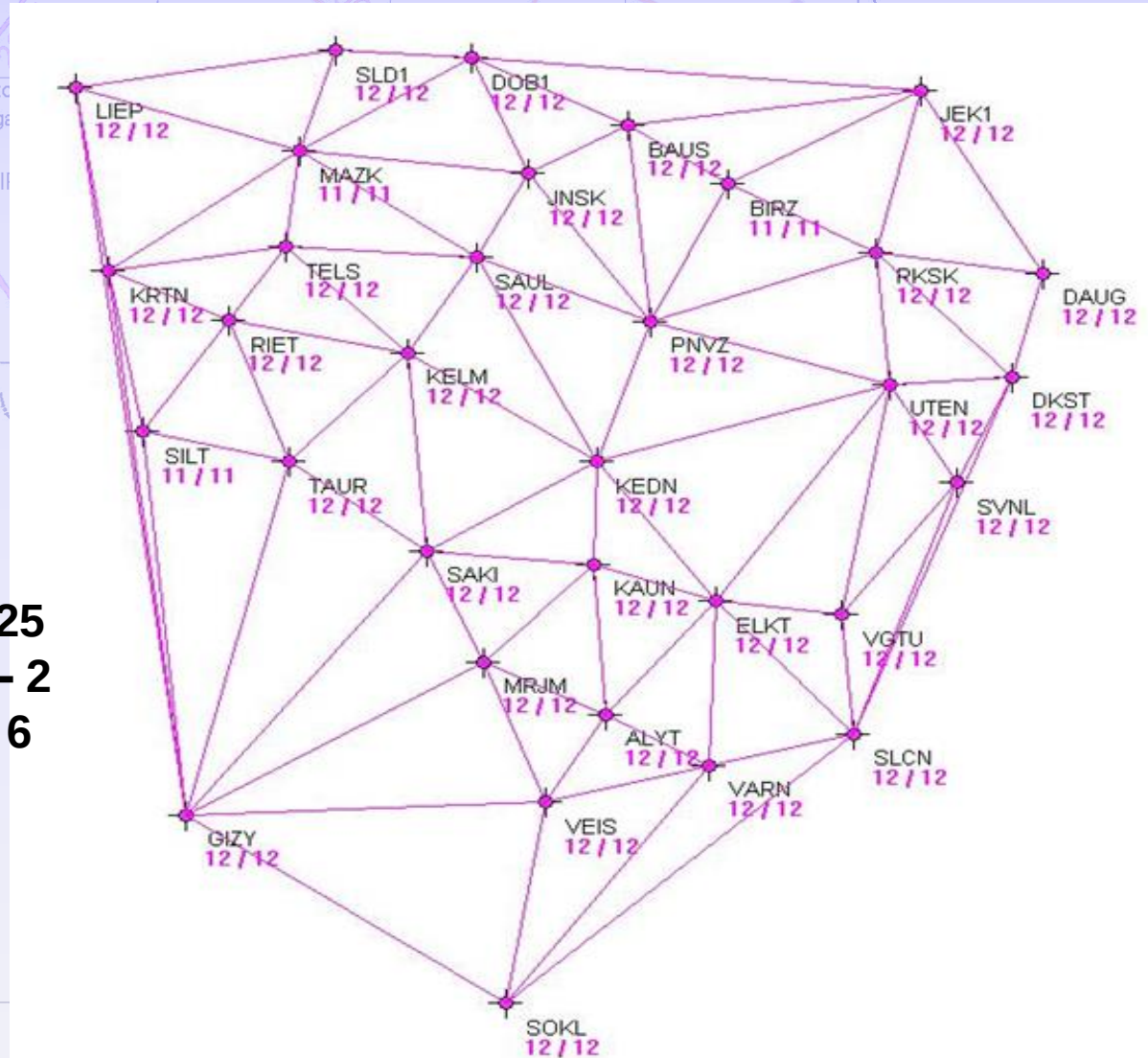
LitPOS (1)



LitPOS - A Service for Precise Positioning in Real Time (25 stations)

LitPOS (2)

INSPIRE: INfrastructure for SPatial InfoRmation in Europe
EUPOS[®] (European Position Determination System)



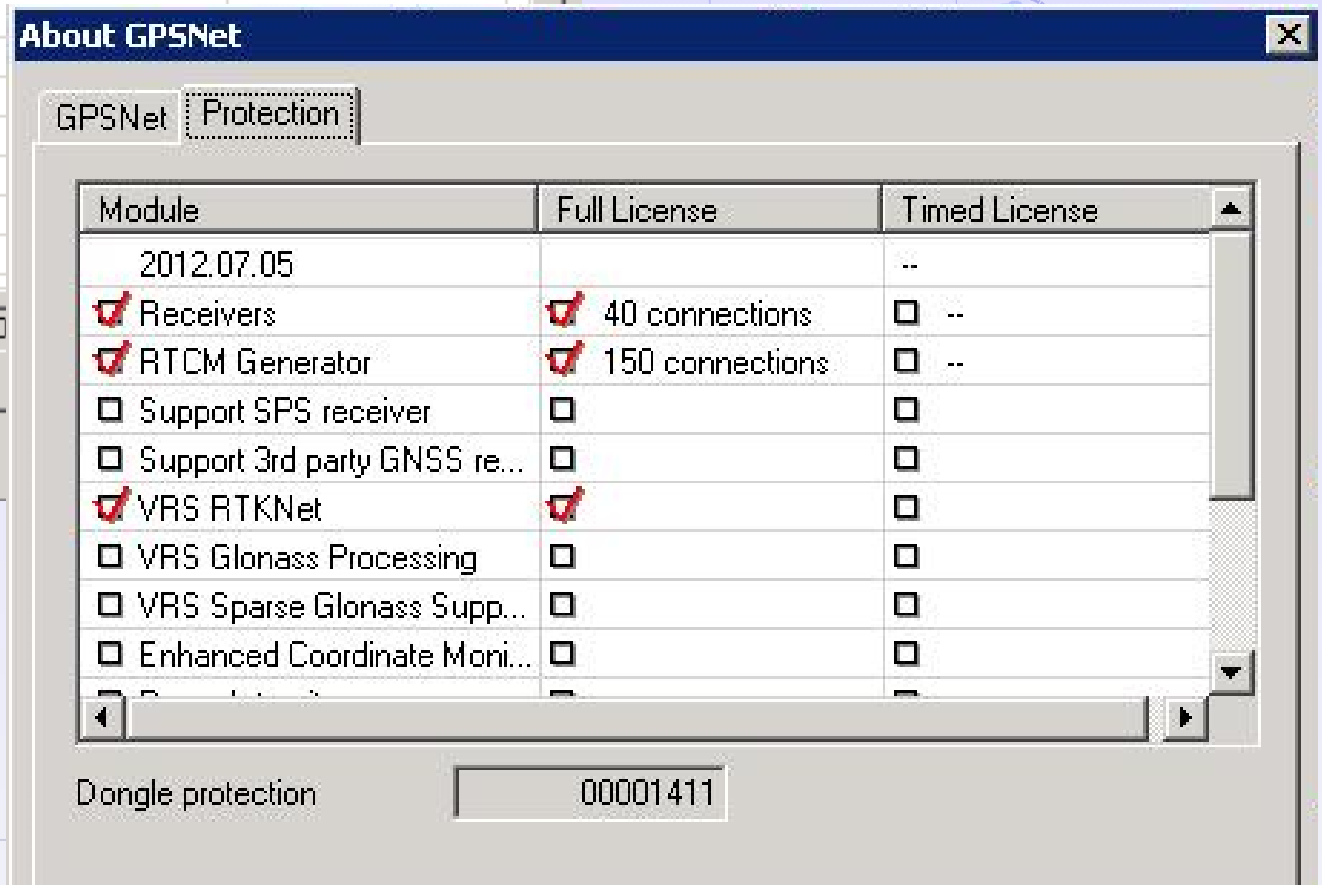
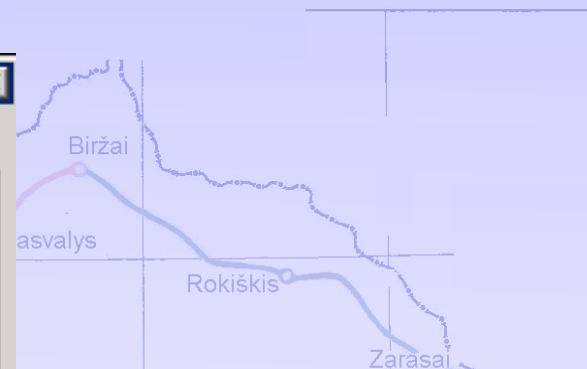
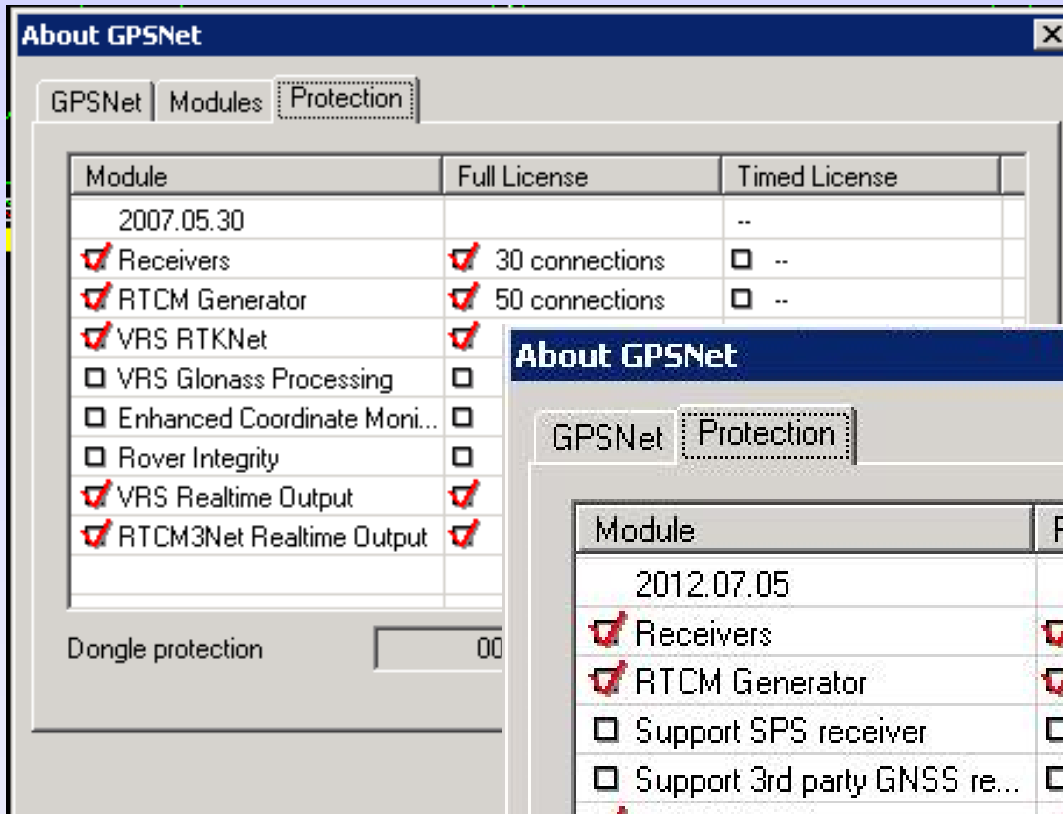
LitPOS – 25
ASG-PL – 2
LatPOS – 6

LitPOS - A Service for Precise Positioning in Real Time (33 stations)

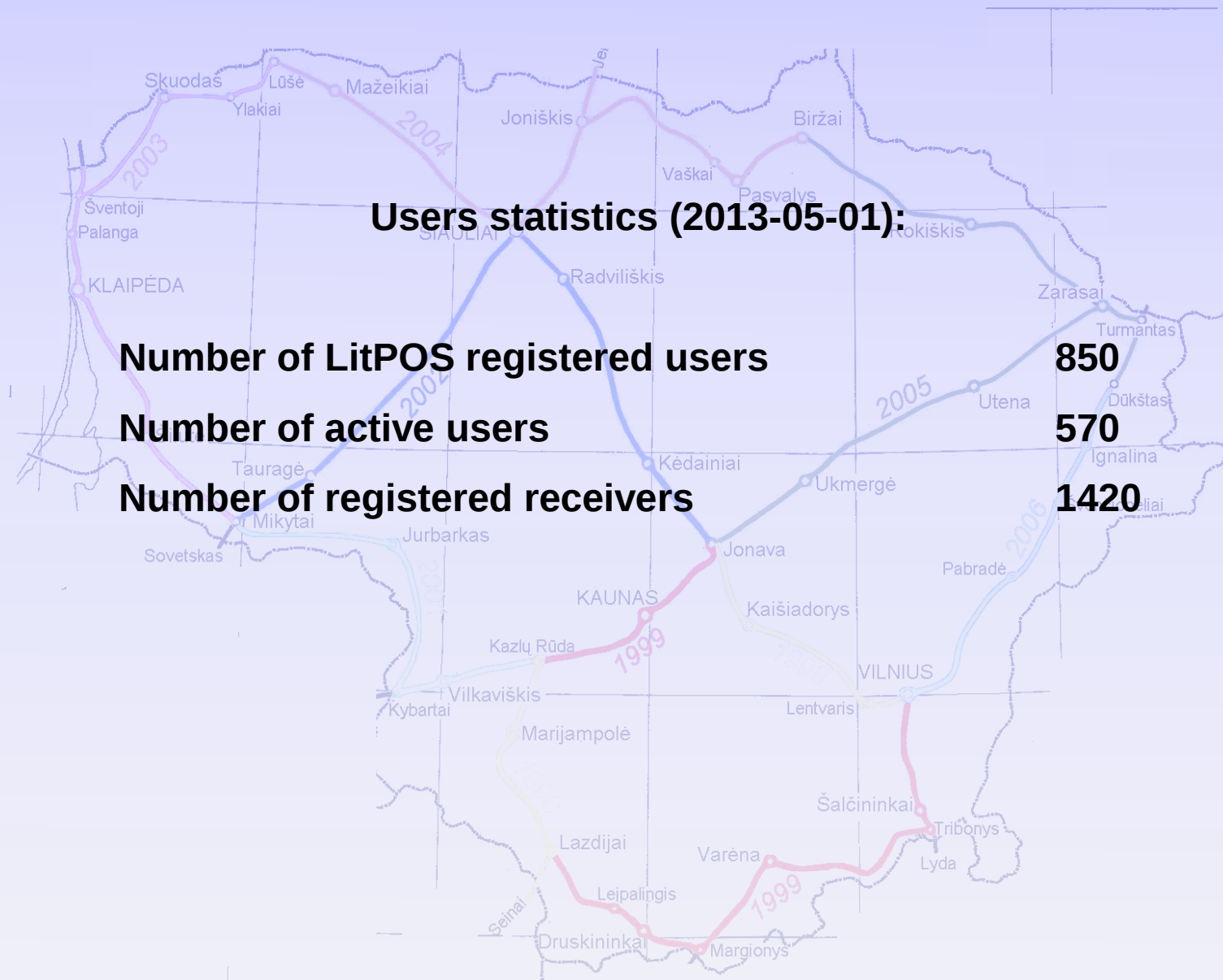
	1990-1991	1991-1992	1992-1993



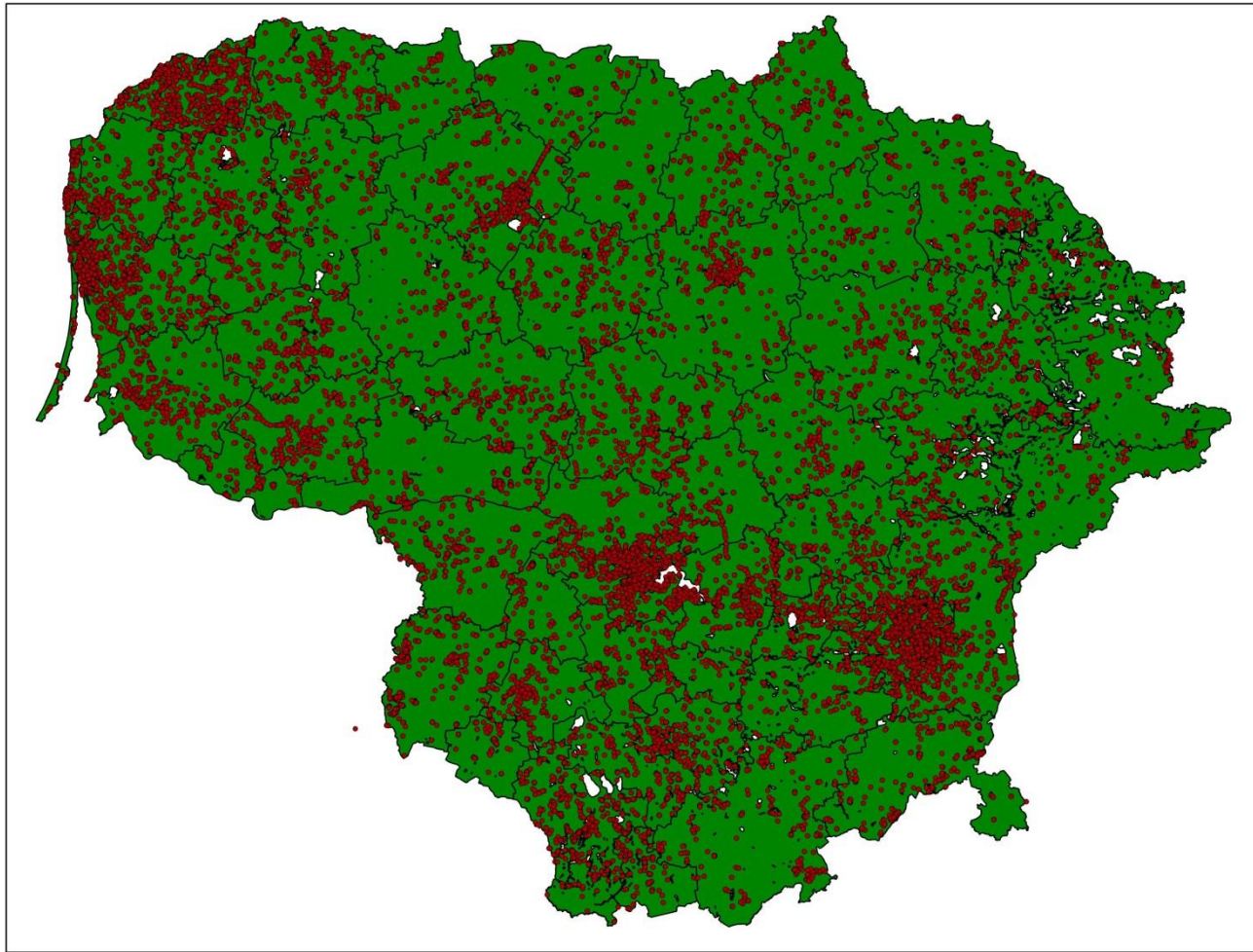
LitPOS (3)



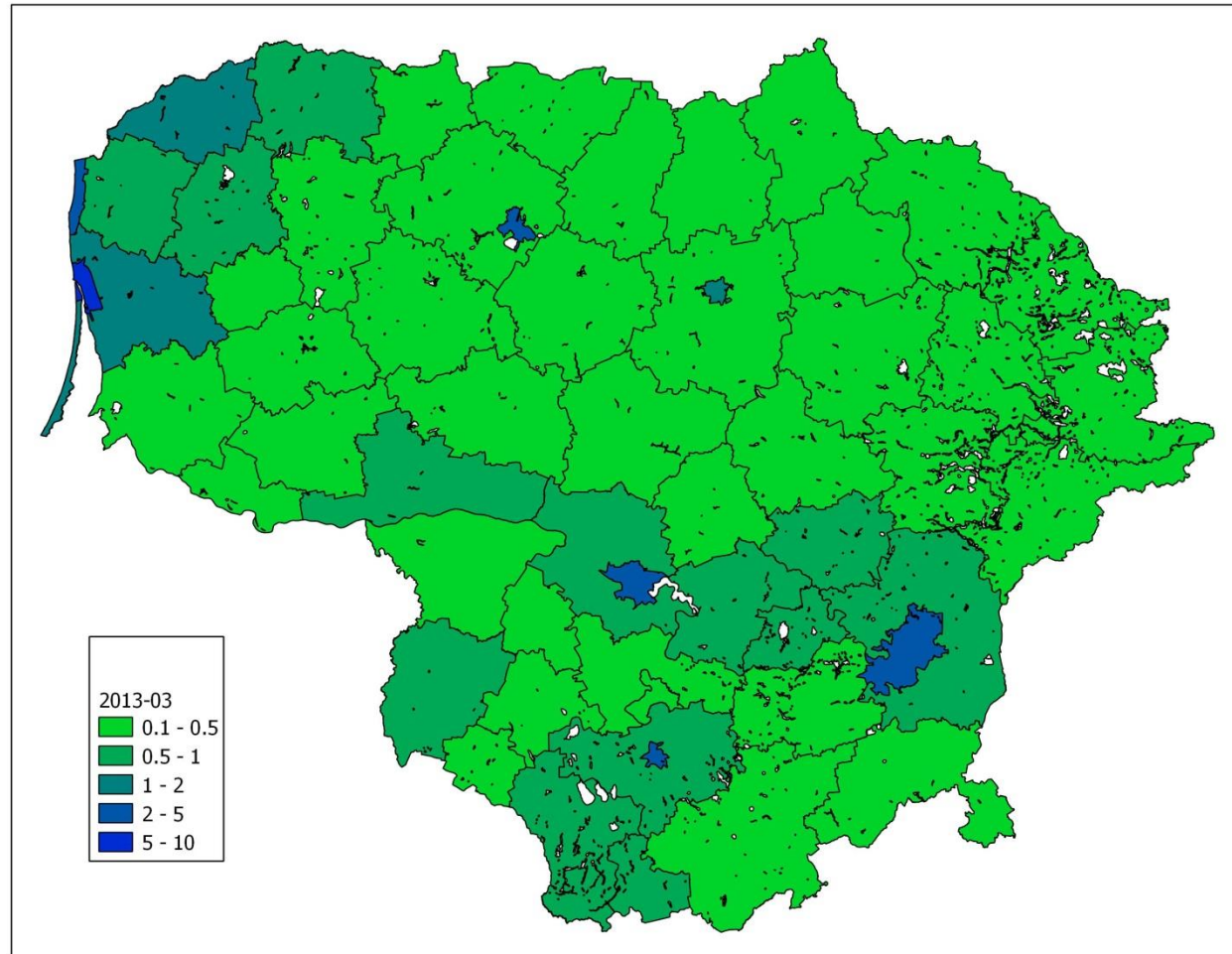
LitPOS (4)



LitPOS (5)



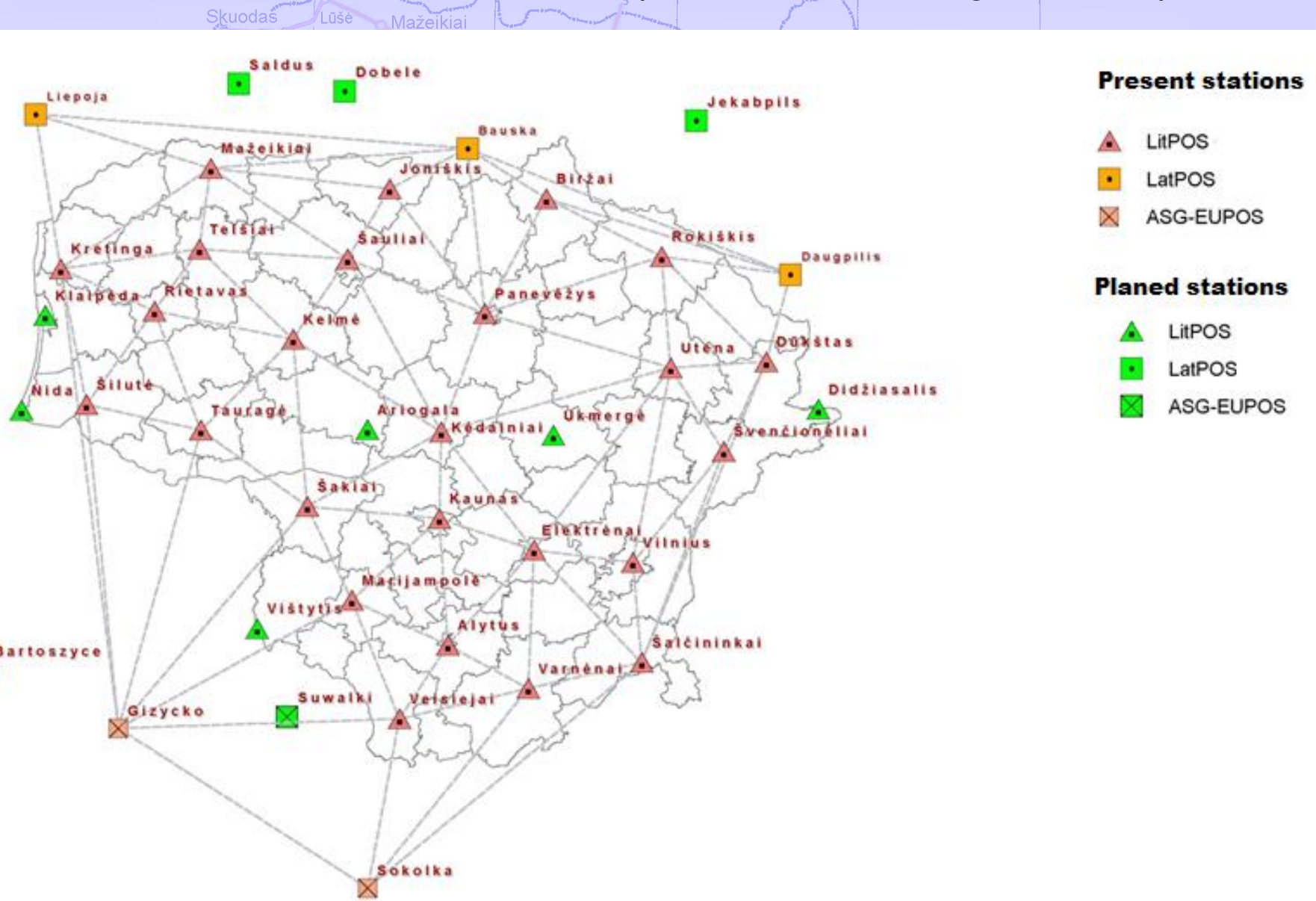
Workplaces in March, 2013



Density of Workplaces in March, 2013

LitPOS (7)

CORS number – 10 more receivers (5 – LitPOS; 5 – foreign networks)



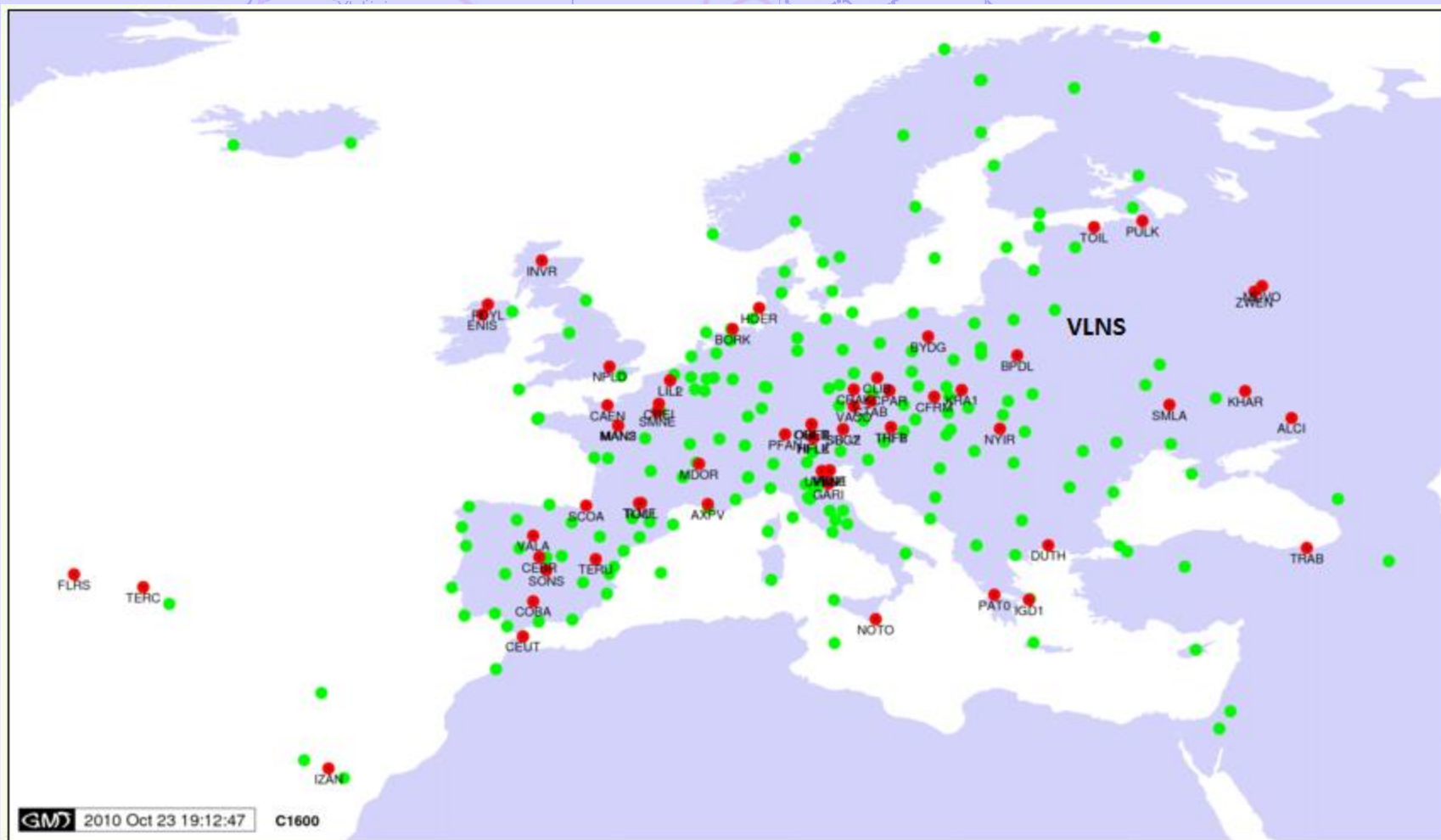
EPN station VILNIUS (VLNS) (1)

NETWORK & DATA > STATION LIST > **VLNS_10801M001**

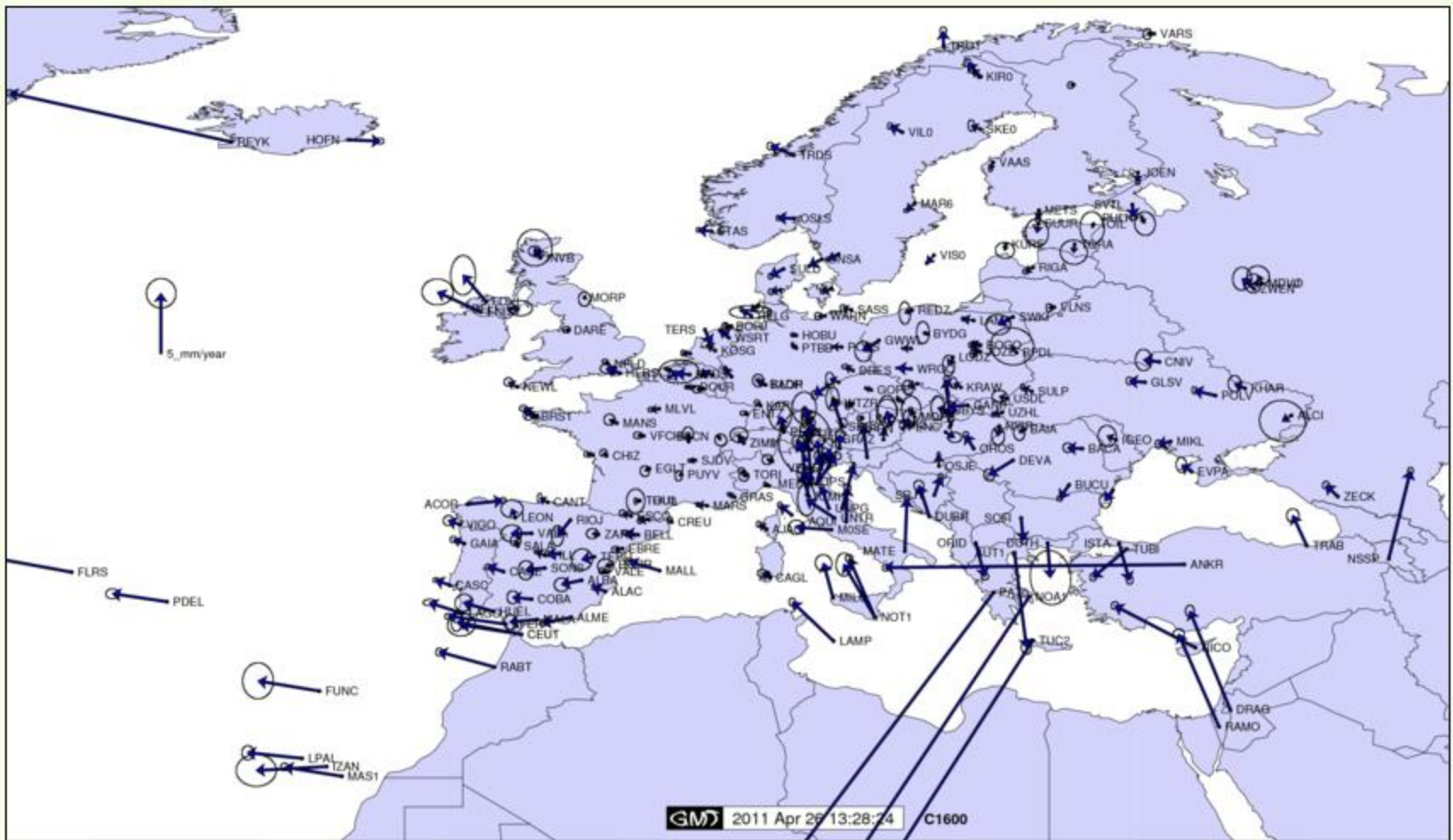
Site Description

LOCATION	Vilnius, Lithuania 
LOG FILE	vlns_20021003.log (current) View
PICTURES	
OPERATIONAL CENTRE	Information not yet available
OTHER NETWORKS	IGS, FOS, ECGN
EPN INCLUSION	Since 052/1999 (GPSweek No 0998).
INACTIVITY PERIODS	None
COORDINATES	Published positions/velocities in ITRS and ETRS89
INDIVIDUAL ANTENNA CALIBRATIONS	None

EPN station VILNIUS (VLNS) (2)



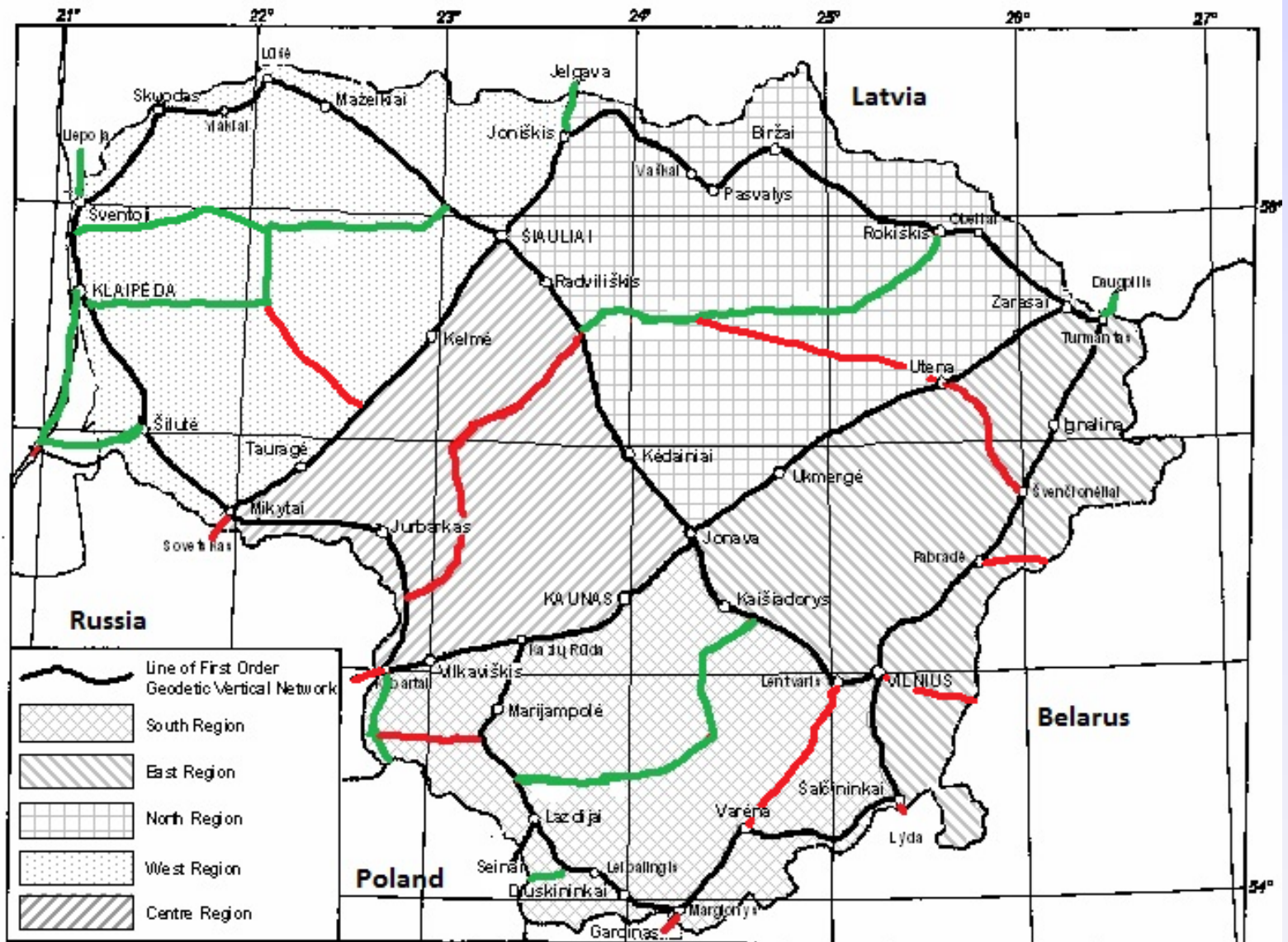
EPN station VILNIUS (VLNS) (3)



Present: Receiver Ashtech Z12 - many thanks to [Rudolf Stöger](#)
Plans in 2013: New receiver Leica GRX1200+AR25, hourly files

Vertical network (1)

Precise levelling (second order) in 2009-2012



5

precise levelling (second order, 2200 km) in 2



Vertical network (3)

Characteristics of projected 2nd order Network

Region	Average length of line, km	Area, thousand km ²	Perimeter of projected network, km	Projected lines			Density of projected network, km/1000 km ²
				Number of lines	Runs which coincide with lines of old levelling, km	New runs, km	
South	27,4	12,6	958	35	692	266	76,0
East	32,8	11,5	854	26	276	578	74,3
North	29,6	15,3	1094	37	635	459	71,5
West	27,5	15,2*	1154	42	812	342	75,9
Centre	31,5	10,2	818	26	708	110	80,2
	29,4	64,8	4878	166	3123	1755	75,3

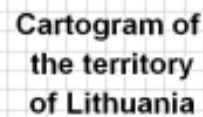
Total length of lines - 2800 km:

Ready - 300 km (in 2007) + 300 km (in 2012)

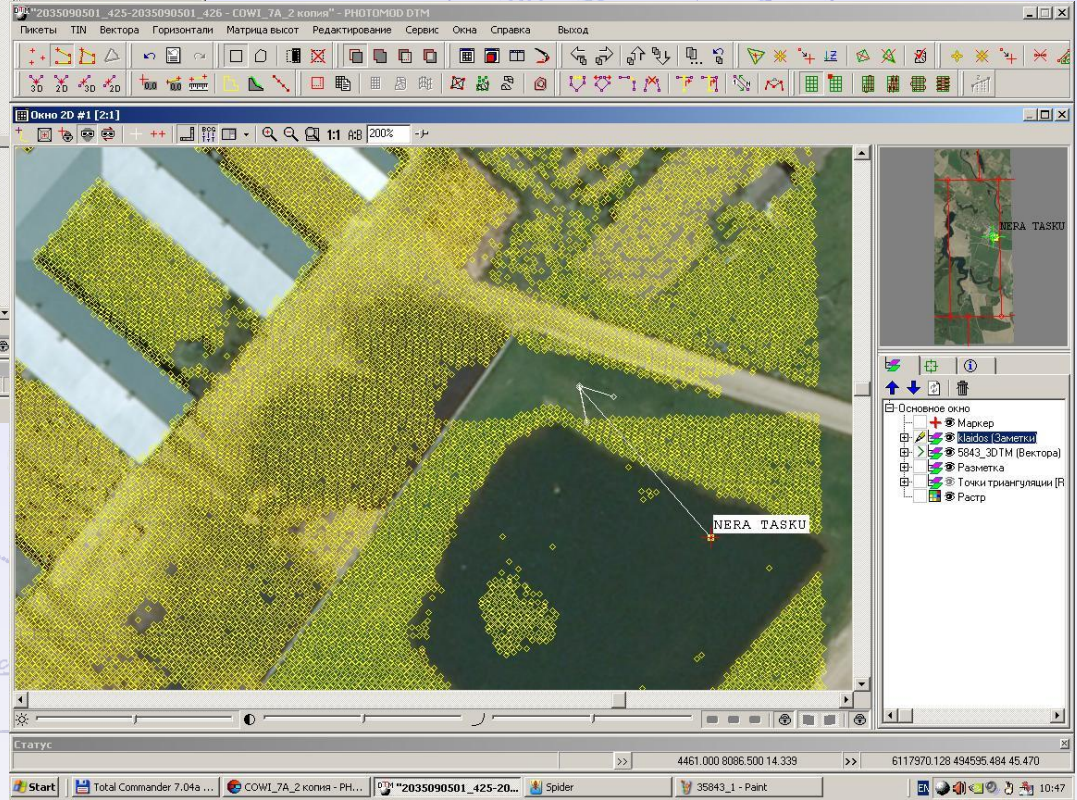
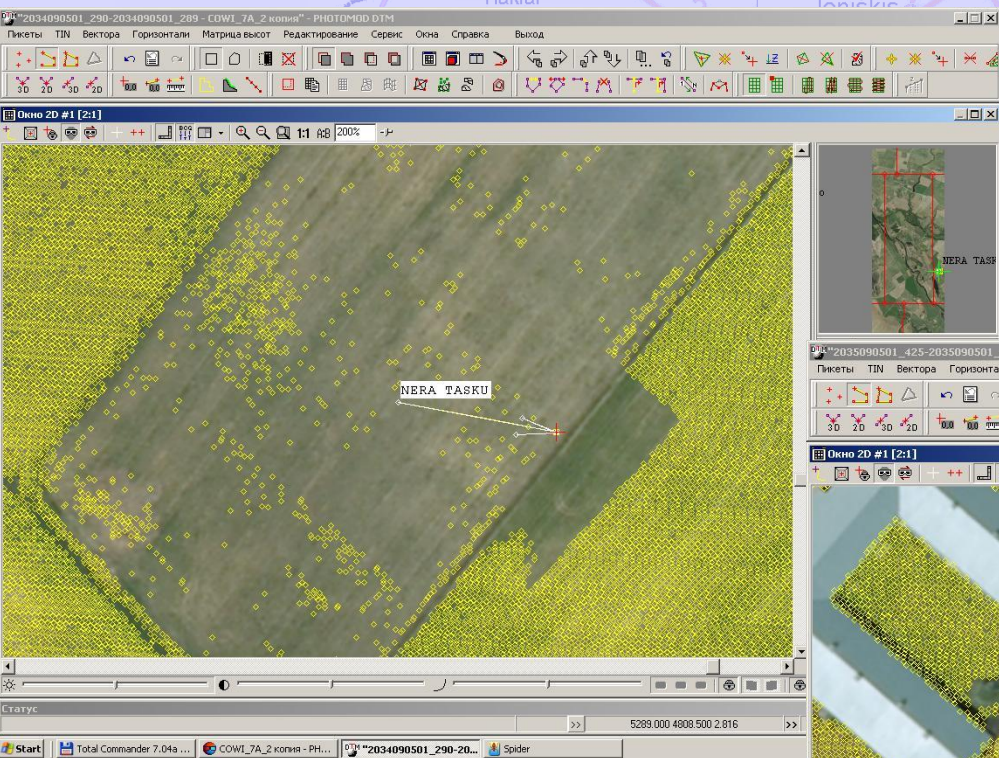
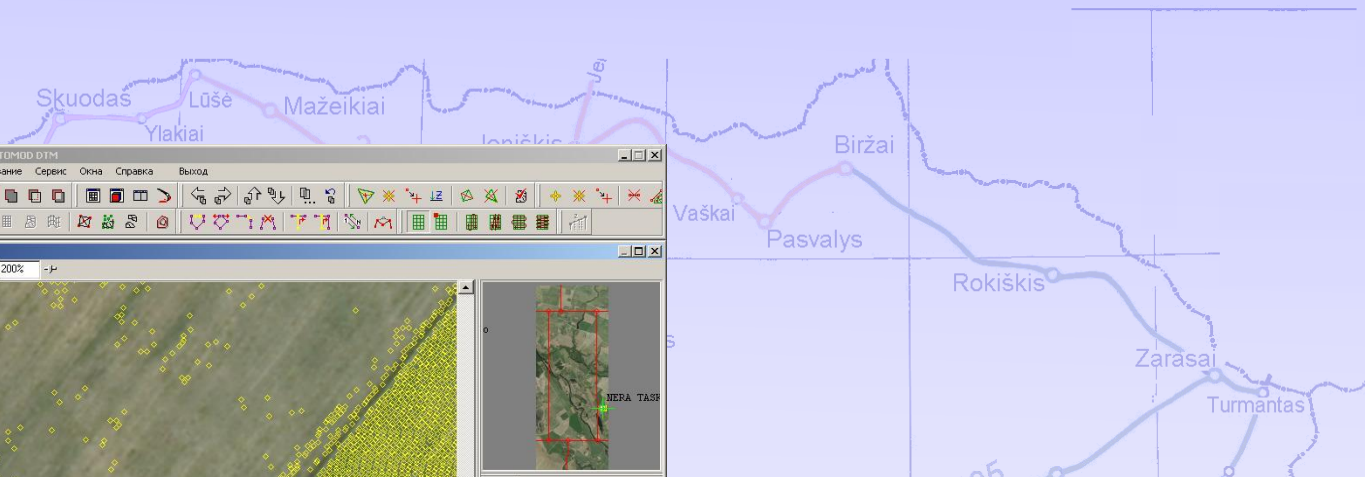
Foreseen – 2200 km (in 2013-2015)

Total number of points - 3300 (new -2800)

புது

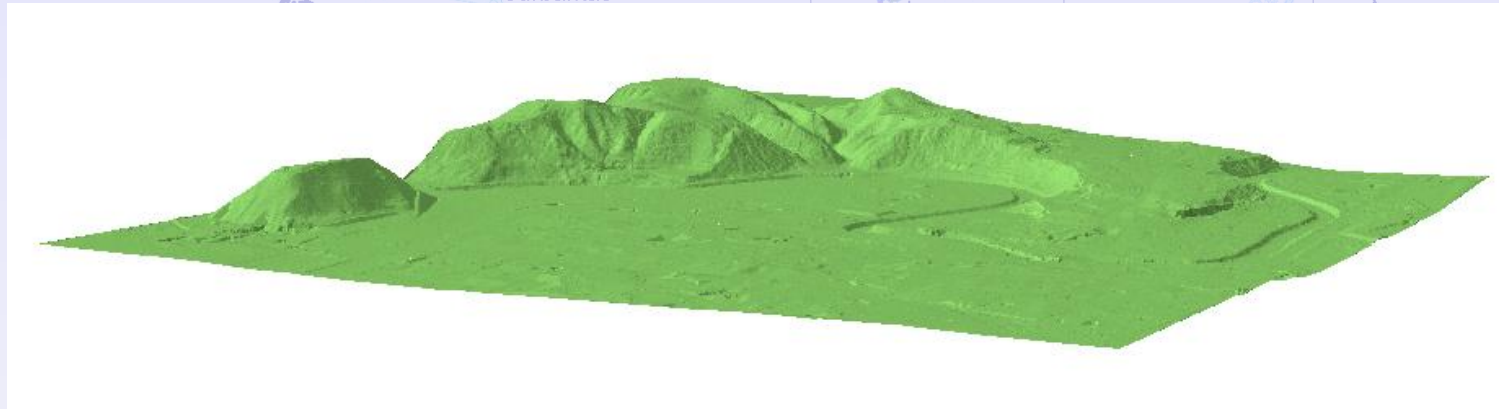


LIDAR

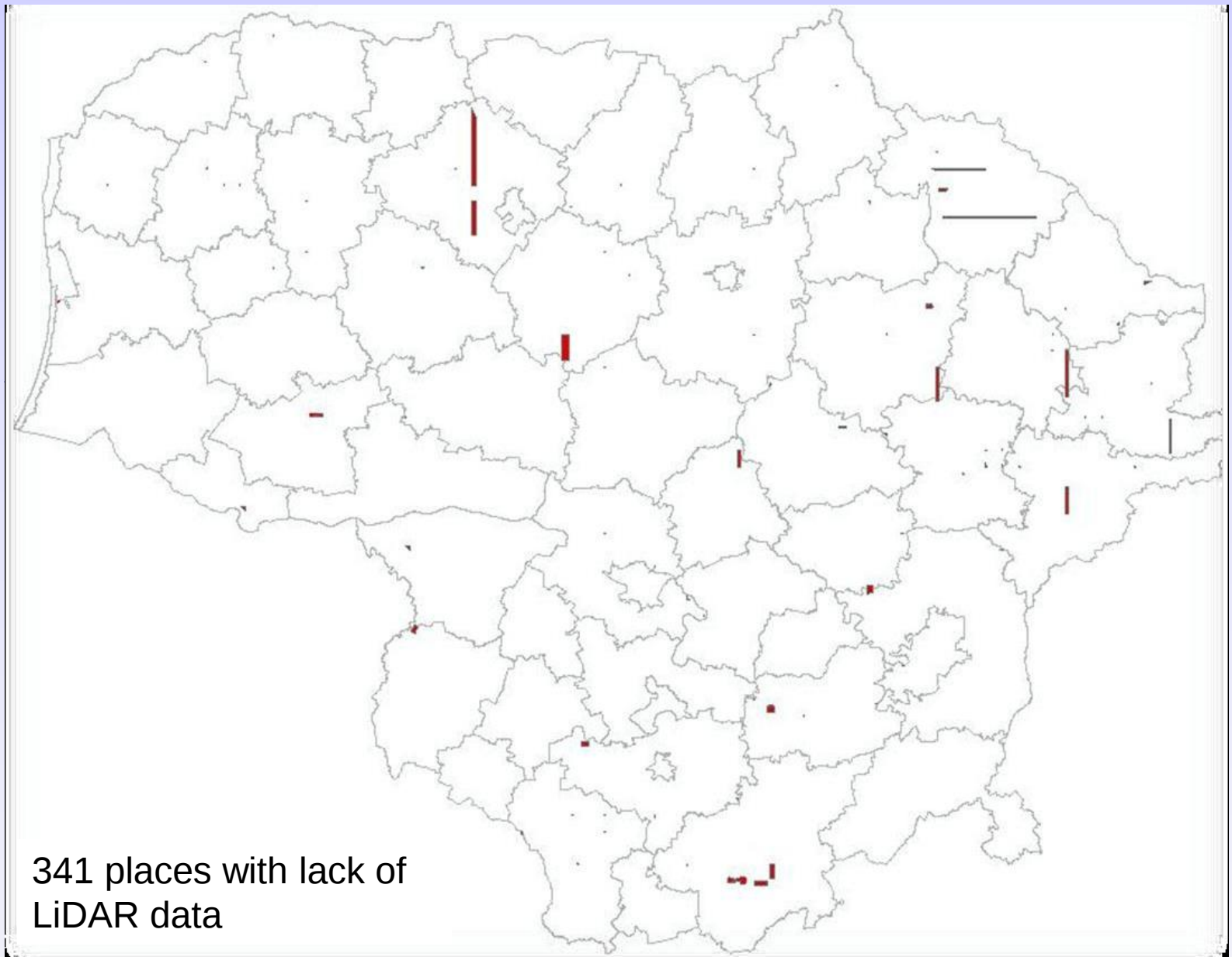


LIDAR

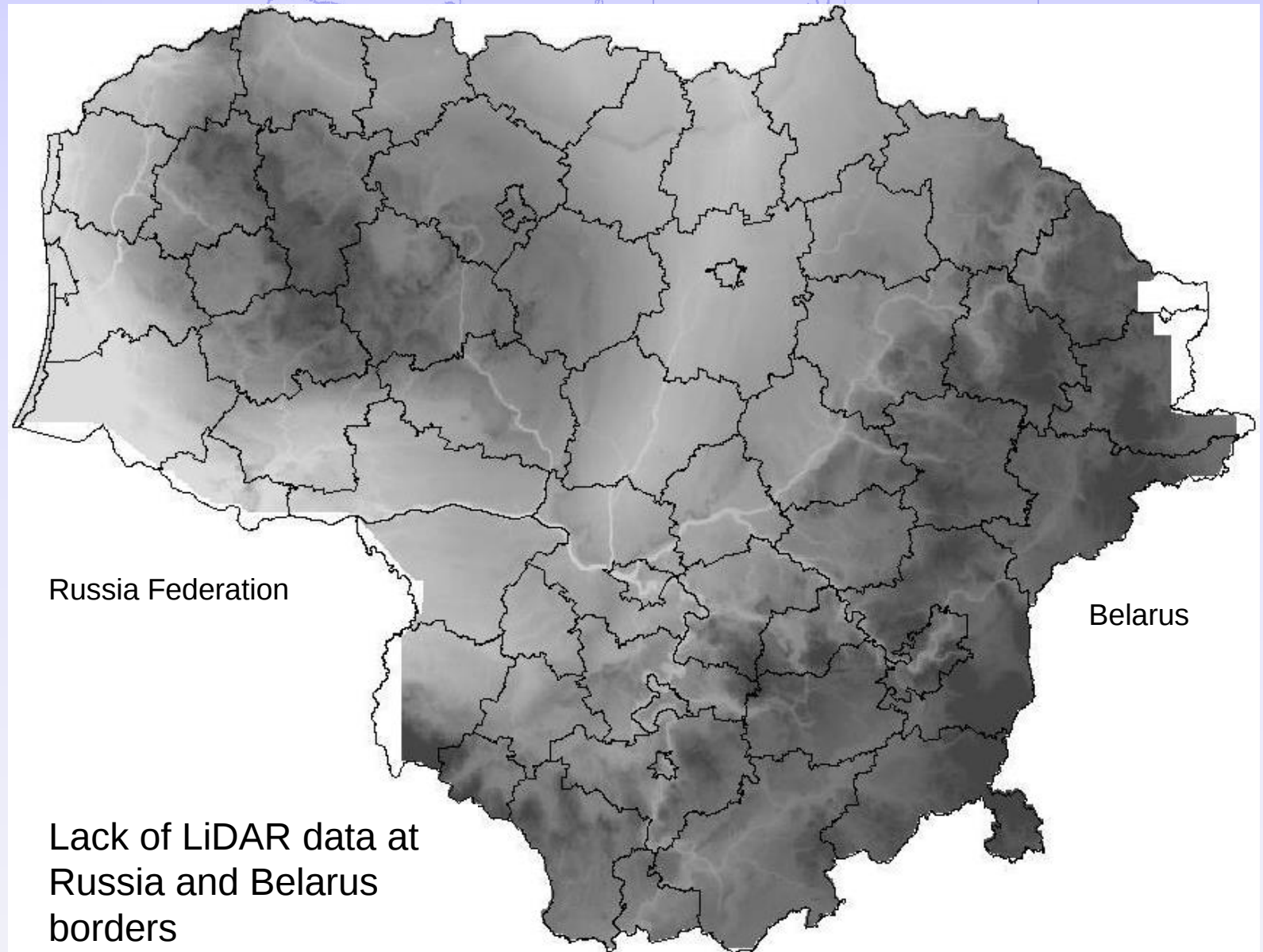
Big errors



LIDAR

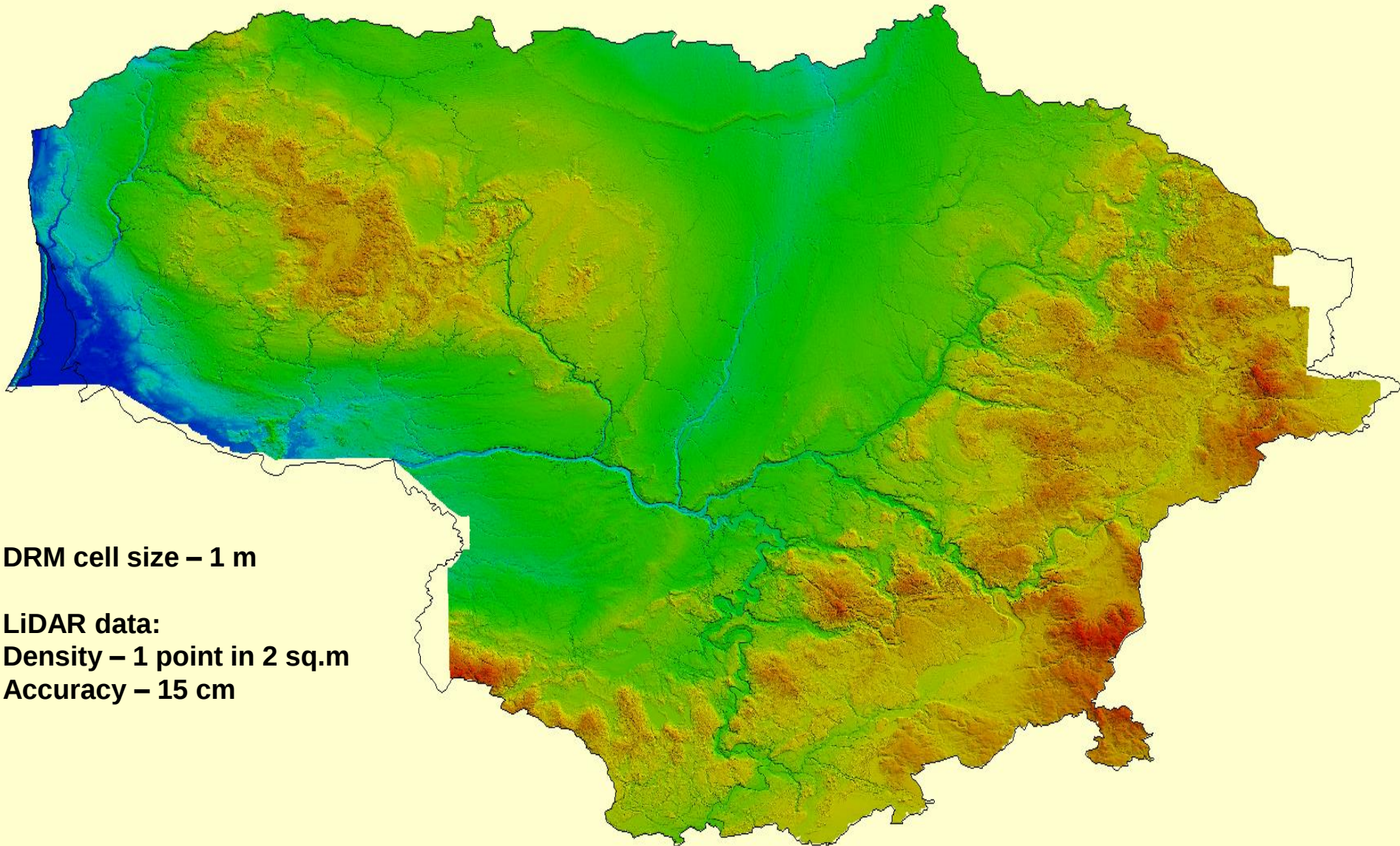


LIDAR



LIDAR - Digital Relief Model

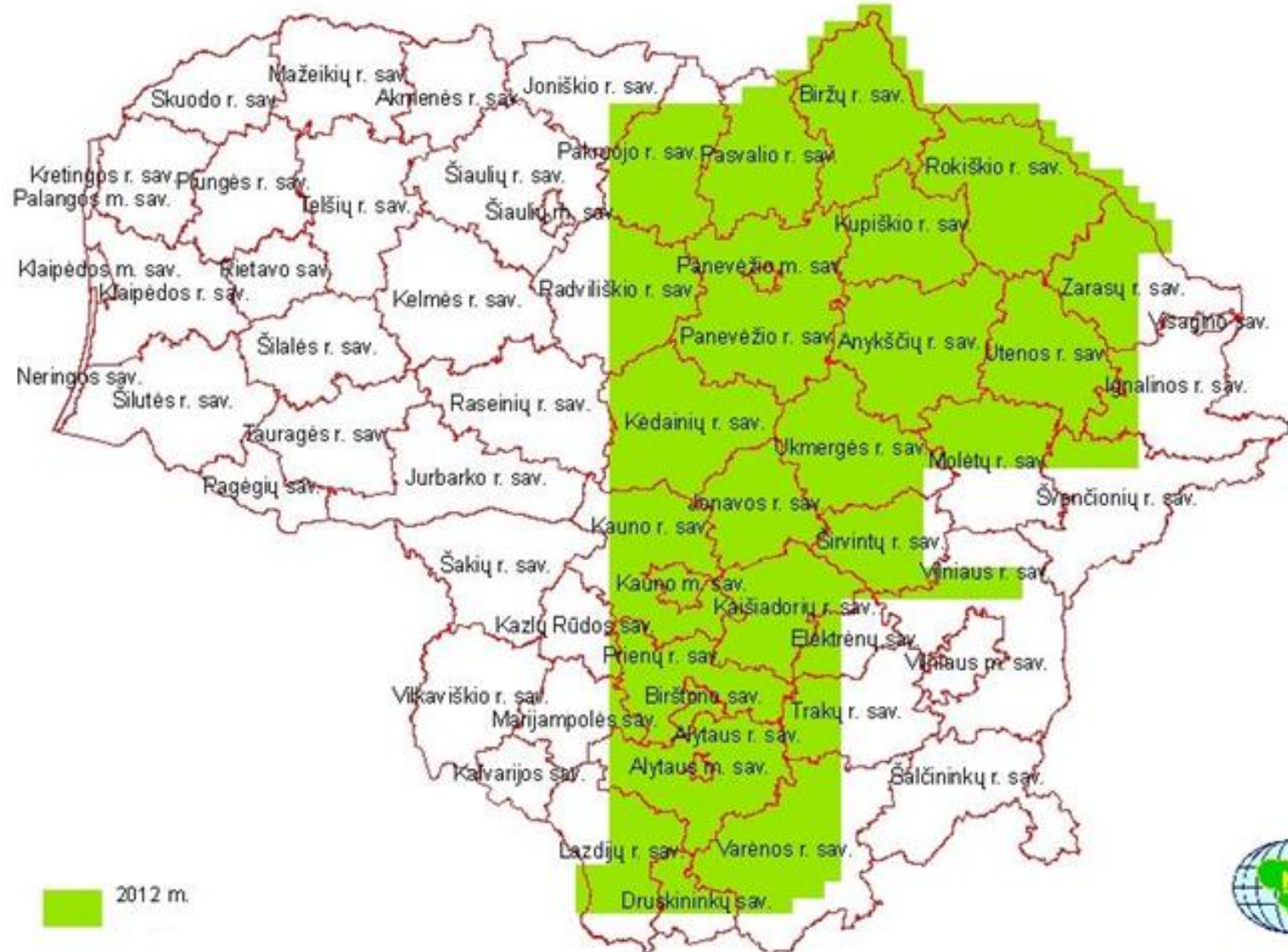
Skuodas Lūše Mažeikiai



DRM cell size – 1 m

LiDAR data:
Density – 1 point in 2 sq.m
Accuracy – 15 cm

Orthophotomapping (2012-2013)



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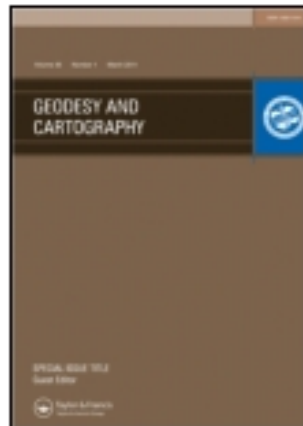
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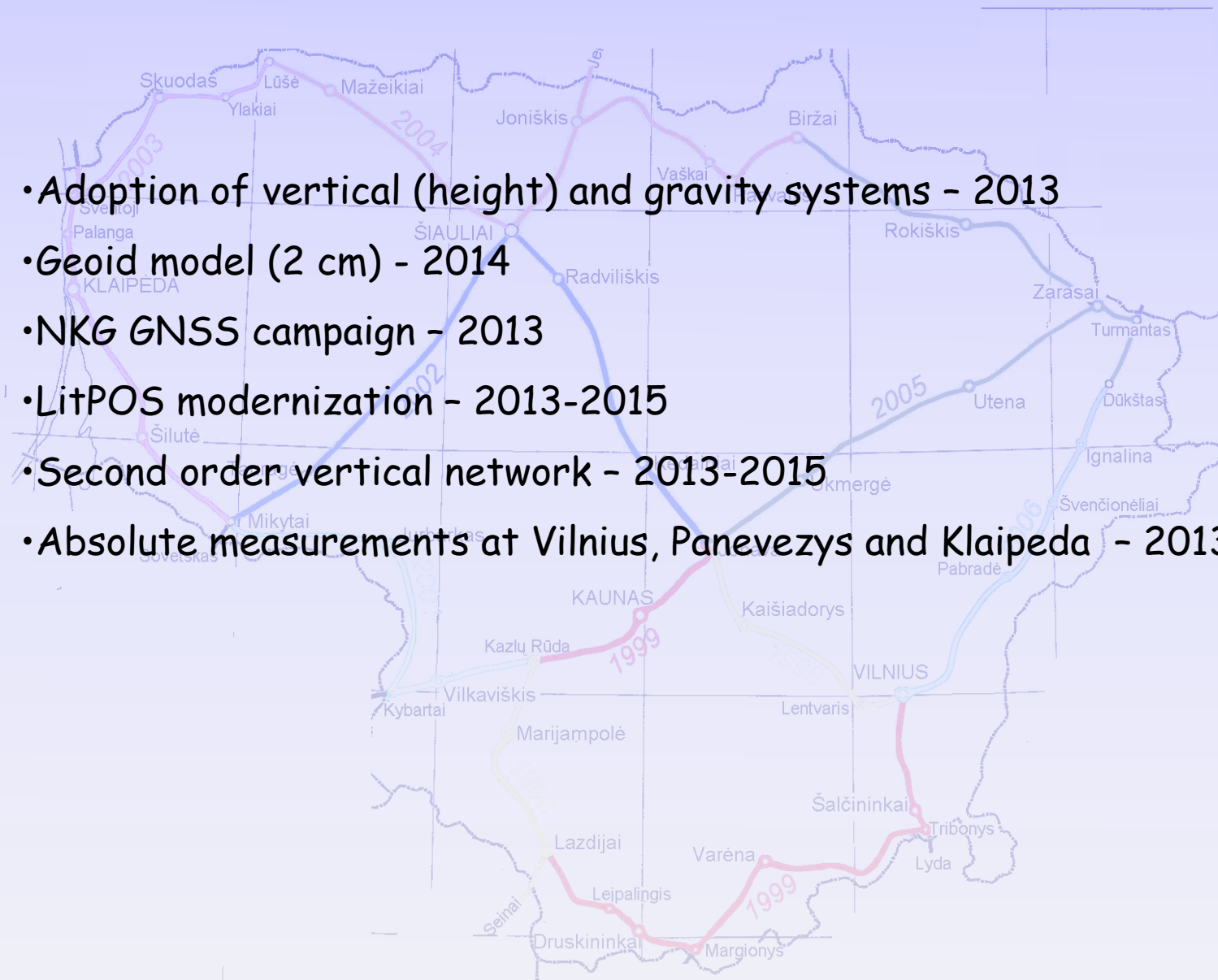
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Future plans

- Adoption of vertical (height) and gravity systems - 2013
- Geoid model (2 cm) - 2014
- NKG GNSS campaign - 2013
- LitPOS modernization - 2013-2015
- Second order vertical network - 2013-2015
- Absolute measurements at Vilnius, Panevezys and Klaipeda - 2013



Thanks...



Thank you for your attention!