



WG on SERVICE QUALITY MONITORING (status in October 2019)

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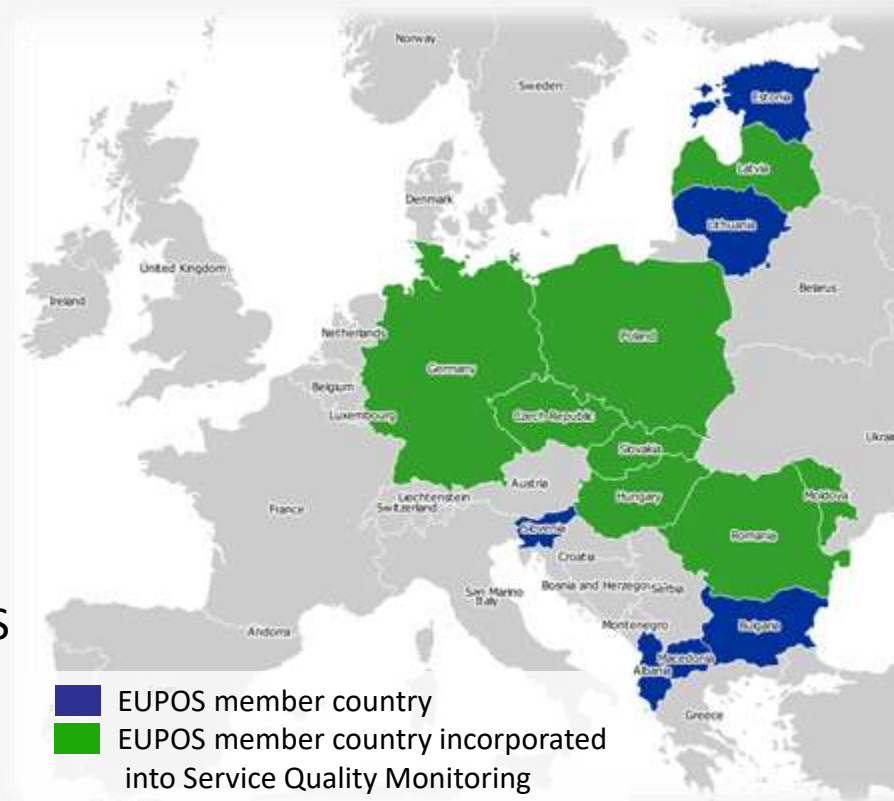
EUPOS WG on Service Quality Monitoring

- established in 2014 in Riga by the resolution 25.5 of the 25th Conference of the EUPOS Steering committee
- Inspired by Czech and Slovakian solution
- Aims:
 - creation of the uniform common network RTK quality monitoring tool based on virtual monitoring stations for all EUPOS member countries
 - set it up and do analysis on outputs











EUPOS WG on Service Quality Monitoring

- Working group members
 - Karol Smolík (Slovakia) - chair
 - Branislav Droščák (Slovakia)
- WG cooperators
 - Szymon Wajda (Poland) – ASG-EUPOS
 - István Galambos (Hungary) – gnsnet.hu
 - Vlad Sorta (Romania) – ROMPOS
 - Christian Trautvetter (Germany) – SAPOS
 - Ivars Degainis (Latvia) – EUPOS-RIGA
 - Pavel Ivancenco (Moldova) – MOLDPOS
 - Jan Řezníček (Czech Republic) – CZEPOS



EUPOS service quality monitoring Status (October 2019)

	33 stations
	87 stations +55 stations
	7 stations
	68 stations
	4 stations
	4 stations -1 station
	10 stations
	4 stations +4 stations
<hr/> <hr/>	
217 stations	+58 stations






GNSS receiver manufacturers

- Trimble
- Javad
- Leica
- Astech
- Topcon

Network softwares:

- Trimble Pivot Platform
- Geo++ GNSMART
- Leica Spider




EUPOS networks deviations comparison Statistics

RTK network						
Control Software		Trimble Pivot Platform	Trimble Pivot Platform	Trimble Pivot Platform	Geo++ GNSMART	Σ
Time period		6 years	5 years	4 years	5 years	
Number of monitored stations		33	87	4	7	217
Maximal	ne	49.9 cm	45.4 cm	49.9 cm	48.7 cm	
	u	49.8 cm	49.2 cm	48.6 cm	49.9 cm	
Average	ne	1.0 cm	0.9 cm	0.9 cm	1.0 cm	1.0 cm
	u	2.4 cm	1.2 cm	1.9 cm	1.2 cm	2.0 cm
No fix		13%	7%	8%	12%	14%

EUPOS networks deviations comparison Statistics

RTK network						
Control Software		Leica Spider	Leica Spider	Leica Spider	Geo++ GNSMART	Σ
Time period		5 years	2 years	< 1 year	4 years	
Number of monitored stations		68	10	4	4	217
Maximal	ne	49.7 cm	37.9 cm	12.3	49.7 cm	
	u	49.9 cm	41.1 cm	43.5	49.9 cm	
Average	ne	1.1 cm	1.0 cm	0.7	1.1 cm	1.0 cm
	u	2.4 cm	1.5 cm	3.0	2.1 cm	1.7 cm
No fix		15%	28%	9%	20%	14%

Analyzes of deviations according to RTK network control software

RTK network				
Software		Trimble Pivot Platform	Geo++ GNSMART	Leica Spider
Number of monitored stations		124	82	11
Average	ne	0.9 cm	0.9 cm	1.1 cm
	u	1.8 cm	2.3 cm	1.7 cm
No fix		9%	15%	16%

Summary and conclusions

- EUPOS network RTK quality monitoring tool works right
- tool is available for public on <http://monitoringEUPOS.gku.sk>
- results from the monitoring confirm „cm“ quality of EUPOS countries network RTK
- we plan to continue our activity and do more analysis in future

Would like to join us?

- Contact us on mails:
 - karol.smolik@skgeodesy.sk
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- What we need from candidates:
 - login and password which allows us to get
 - access to the network RTK solution (VRS concept)
 - access to permanent stations via NTRIP Caster
 - corrections provided in RTCM 3.x format
 - CORS coordinates

Thank you for your attention

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