



Service Quality Monitoring

Working group status

Ing. Karol Smolík

[karol.smolik@skgeodesy.sk](mailto:karel.smolik@skgeodesy.sk)

Geodetic and Cartographic Institute Bratislava



9th EUPOS Council and Technical Meeting

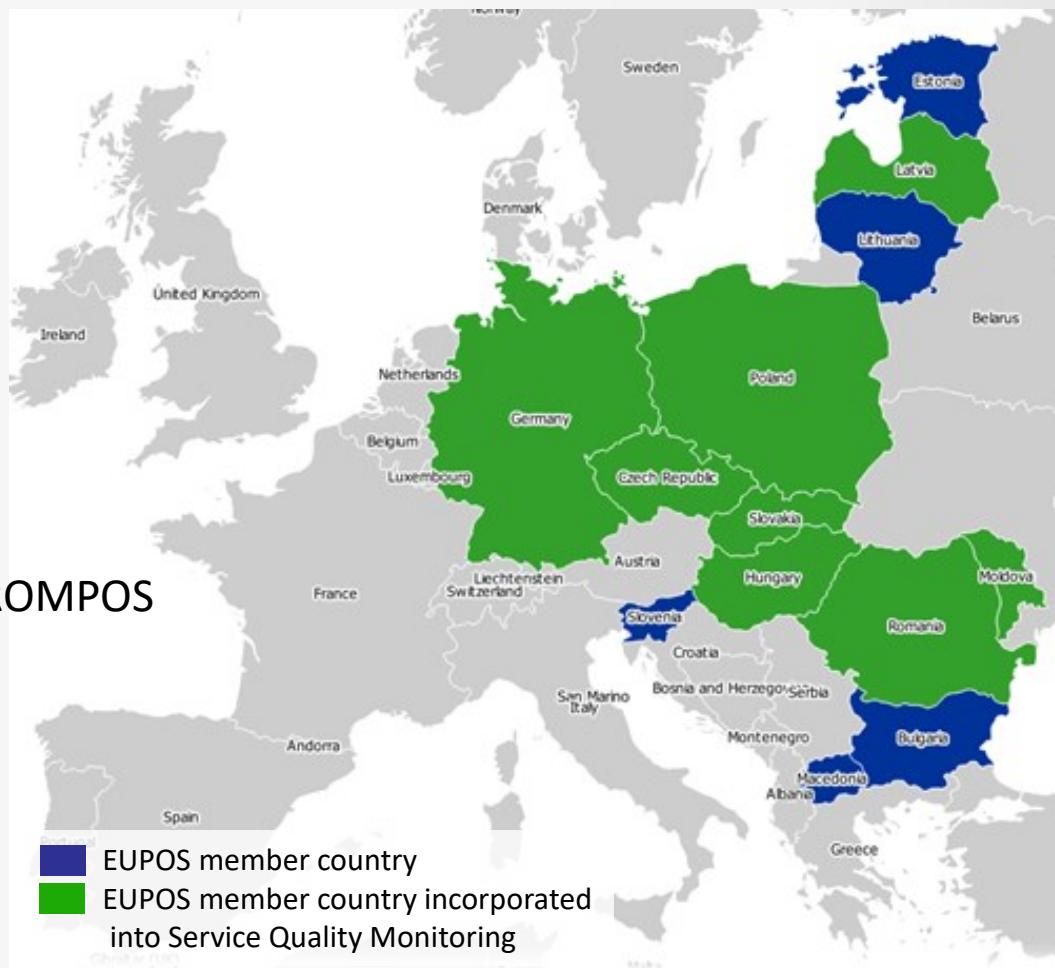
November 22-23 2023, Riga, Latvia



EUPOS WG on Service Quality Monitoring

- Working group members
 - Karol Smolík (Slovakia) - chair
 - Branislav Droščák (Slovakia)

- WG cooperators **No new member**
 - Szymon Wajda (Poland) – ASG-EUPOS
 - István Galambos (Hungary) – gnssnet.hu
 - Vlad Sorta, Miluta Flueraš, Victor Crasnopschi (Romania) – ROMPOS
 - Christian Trautvetter (Germany) – SAPOS
 - Rolands Pinta (Latvia) – EUPOS-RIGA
 - Alexandr Mihailov (Moldova) – MOLDPOS
 - Jan Řezníček (Czech Republic) – CZEPOS



EUPOS service quality monitoring

Status (November 2022)



35 stations



87 stations



7 stations



75 stations



4 stations



3 stations



10 stations



4 stations

225 stations

GNSS receiver manufacturers

- Trimble ■ Javad
- Leica ■ Astech
- Topcon

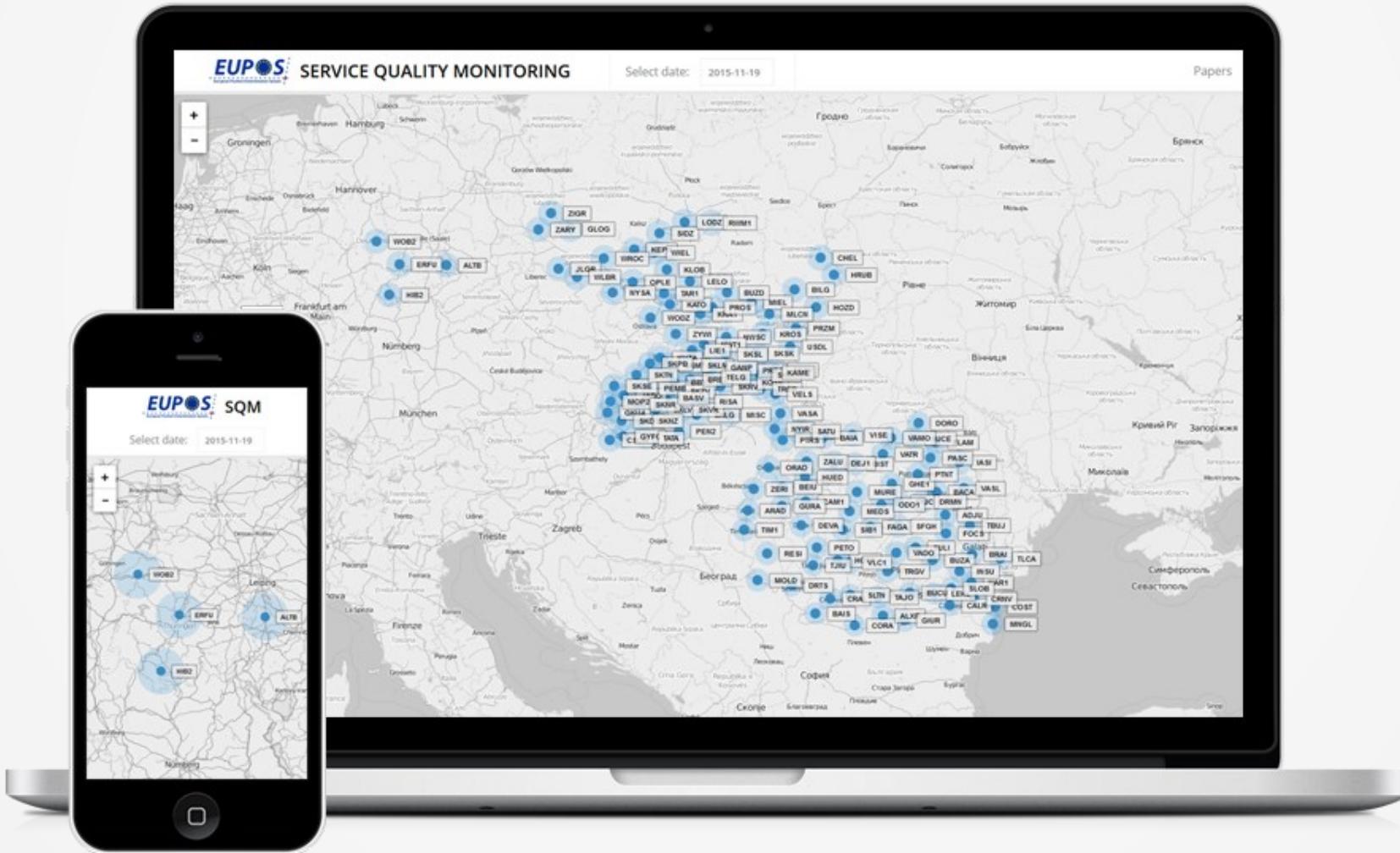
Network softwares:

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

EUPOS service quality monitoring

User interface

<http://monitoringEUPOS.gku.sk>



EUPOS networks deviations comparison

Statistics

RTK network		 SKPOS®	 ASG. euPOS	 SAPOS®	 ROMPOS Romanian Position Determination System	 MOLDPOS	 C Z E P O S	 GNSnet.hu GNSS SZOLGÁLTató KÖZPONT	 RIGA EUPOS® Latvian Position Determination System	 EUPOS European Position Determination System	
Control Software		Trimble Pivot Platform			Leica Spider			Geo++ GNSMART			Σ
Time period		10 years	9 years	8 years	9 years	6 years	5 year	9 years	8 years		
Number of monitored stations		35	87	4	75	10	4	7	3	225	
Maximal	ne	49.9 cm	46.8 cm	51.9 cm	49.8 cm	41.3 cm	38.4 cm	49.1 cm	49.8 cm		
	u	49.8 cm	49.3 cm	48.8 cm	49.9 cm	43.5 cm	47.9 cm	69.9 cm	59.9 cm		
Average	ne	1.0 cm	1.0 cm	0.9 cm	1.2 cm	1.1 cm	0.8 cm	1.0 cm	1.1 cm	1.0 cm	
	u	2.4 cm	1.2 cm	1.9 cm	2.4 cm	1.5 cm	2.8 cm	1.3 cm	2.1 cm	2.0 cm	
No fix		13%	7%	8%	15%	28%	10%	12%	20%	14%	

Plans to next year

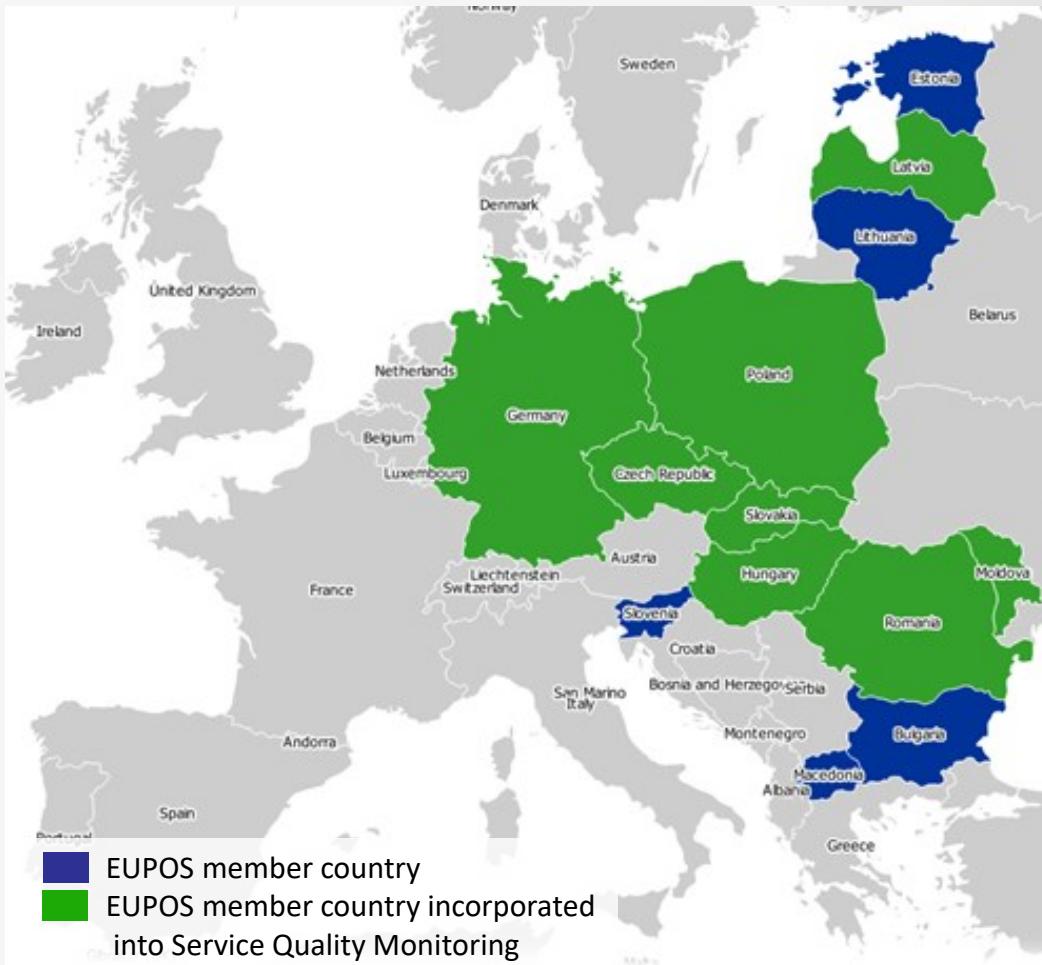
- Comparison of the virtual principle with the new physical station in Slovakia
- Migration to a new server

Summary

- 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

Join us - join EUPOS SQM!

- What you will get?
 - feedback about quality of your service
 - comparison of your service with other countries
- E-mail contact:
 - karel.smolik@skgeodesy.sk
- What we need for joining:
 - 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

Ing. Karol Smolík

[karol.smolik@skgeodesy.sk](mailto:karel.smolik@skgeodesy.sk)



9th EUPOS Council and Technical Meeting

November 22-23 2023, Riga, Latvia

