



SKPOS®

National report of Slovakia

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Geodetic and Cartographic Institute Bratislava



9th EUPOS Council and Technical Meeting

November 22-23 2023, Riga, Latvia



SKPOS stations infrastructure

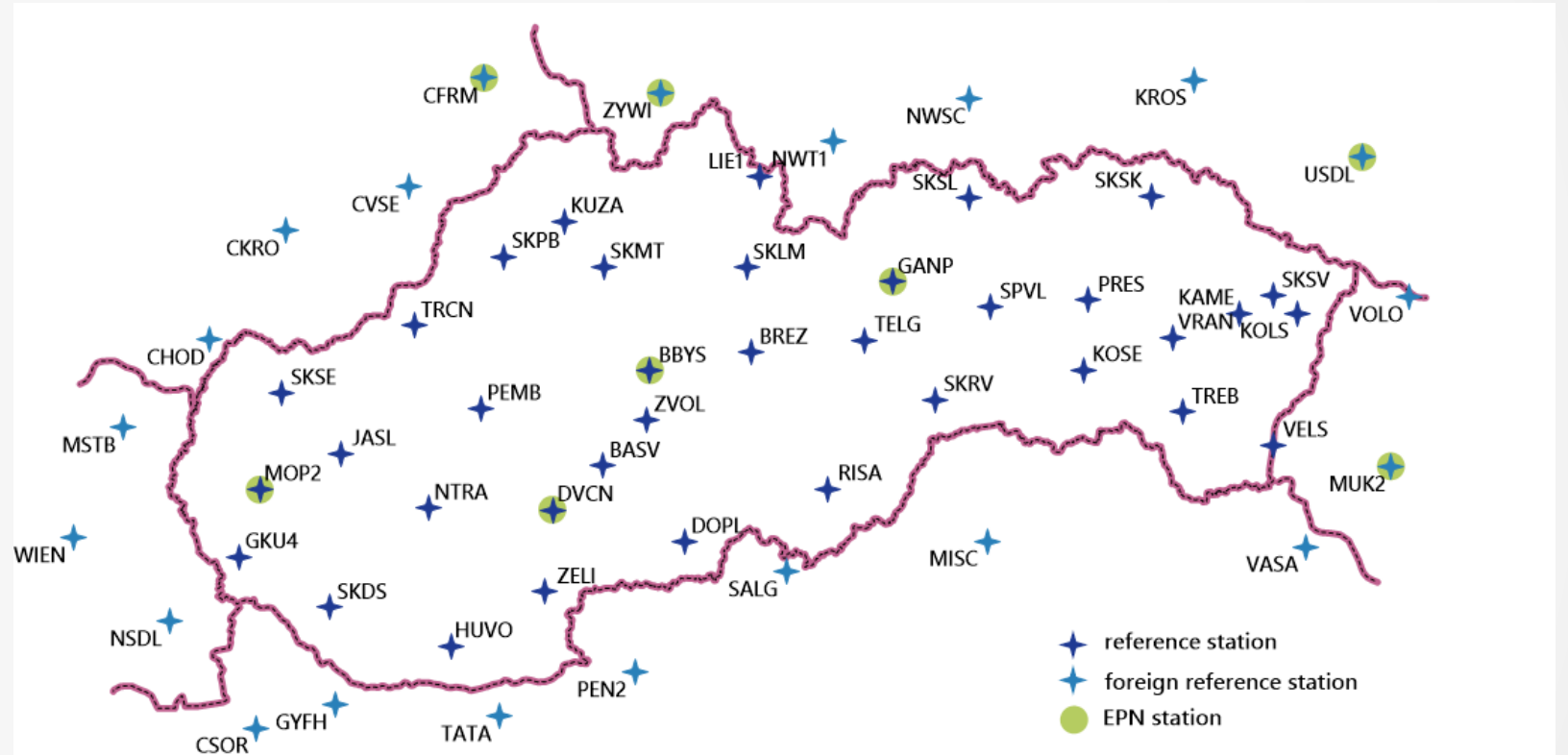
Status in November 2023

17 years
of continuous operation

3 000+
active users

36+21
reference stations

GPS, GLONASS,
Galileo, BeiDou



Trimble
NetR9



Trimble
Alloy



Zephyr Geodetic 2
Zephyr Geodetic 3

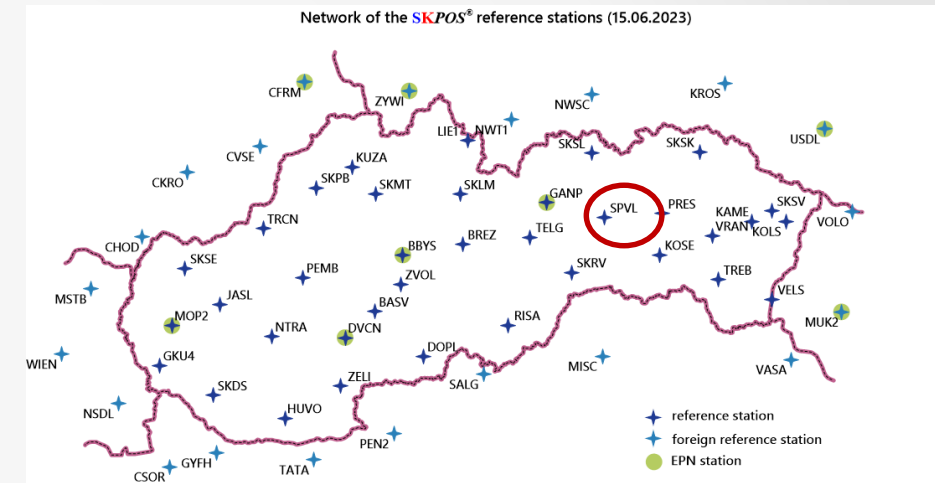


Choke Ring

SKPOS stations infrastructure

November 2022

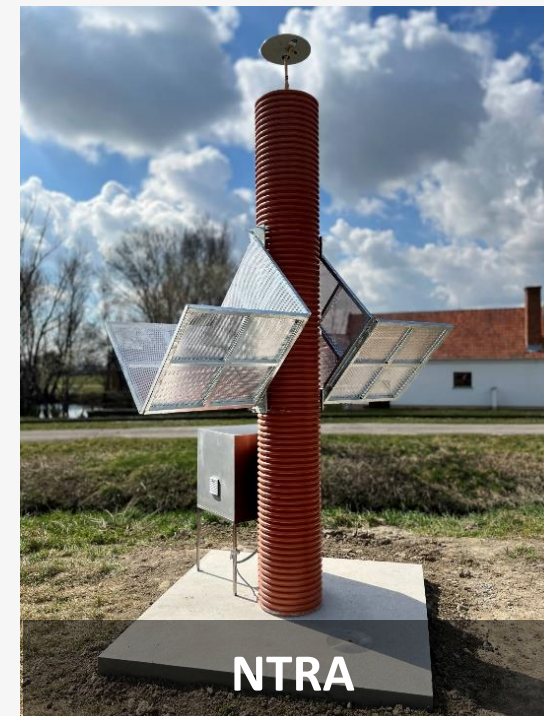
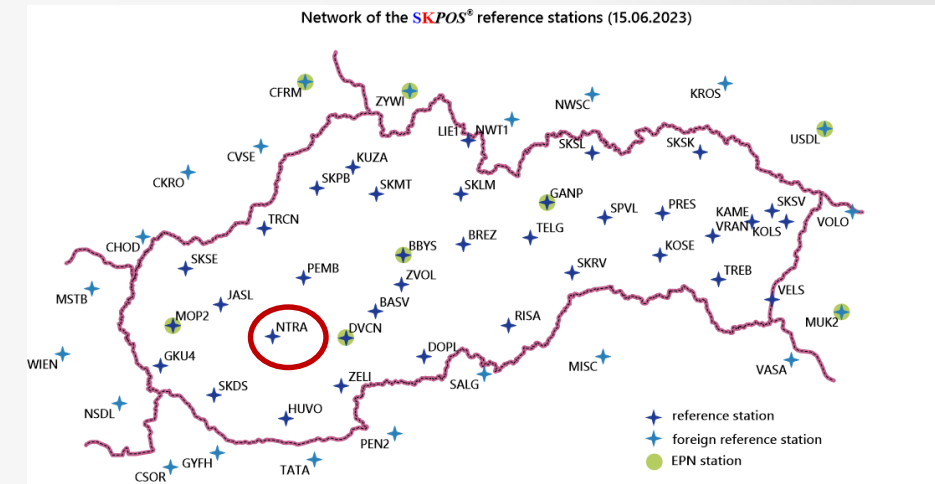
- New station
 - reinforced concrete pillar



SKPOS stations infrastructure

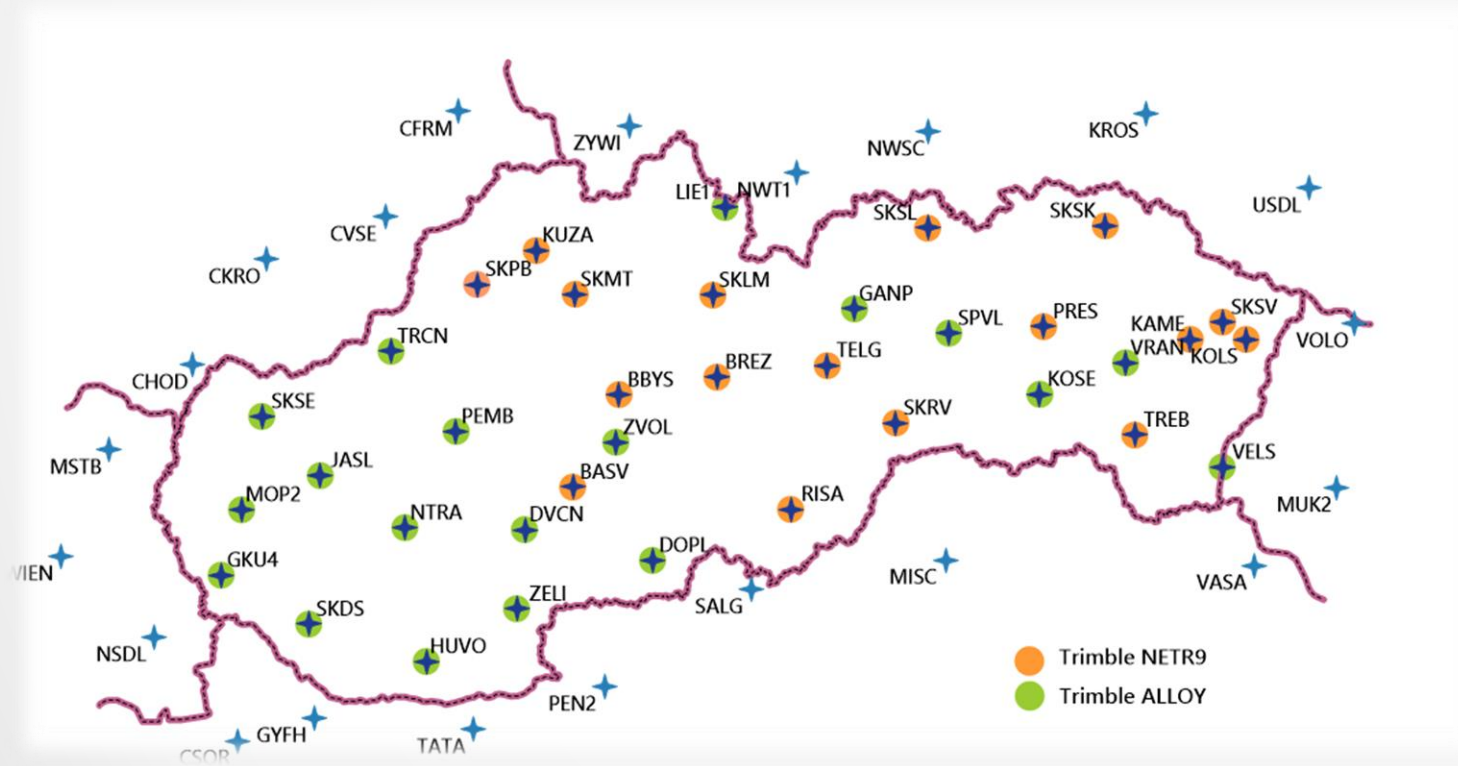
December 2022

- Station relocation
 - reinforced concrete pillar instead of roof monumentation



SKPOS stations infrastructure

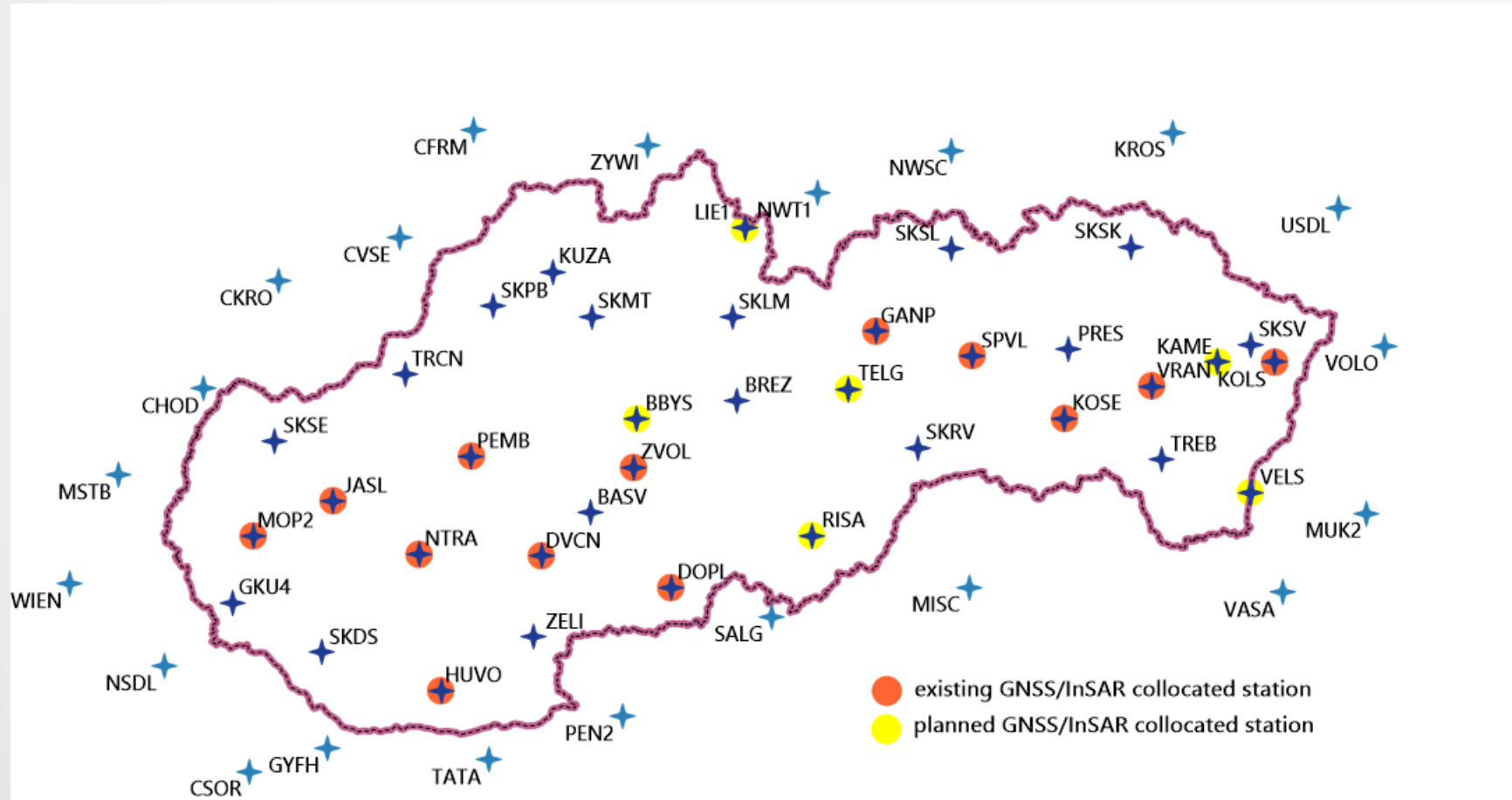
- 19/36 Trimble Alloy receivers



Alloy = full BeiDou III support

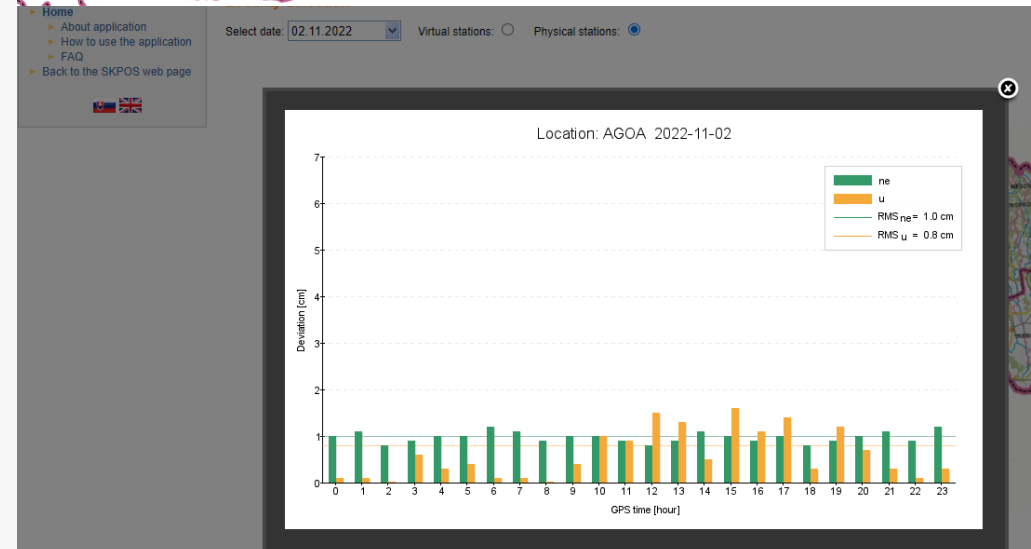
Test under preparation!

SKPOS GNSS/InSAR collocation



Physical / Virtual monitoring

- 2013
Quality monitoring based on virtual stations
- 2020
1st physical monitoring station SUT2 (Bratislava)
- 2022
Relocation of monitoring station SUT2 → AGOA (Bratislava)
- 2023
Relocation of monitoring station AGOA → AGOC (Bratislava)
- 2023
2nd physical monitoring station TUZV (Central Slovakia)



SKPOS Infrastructure

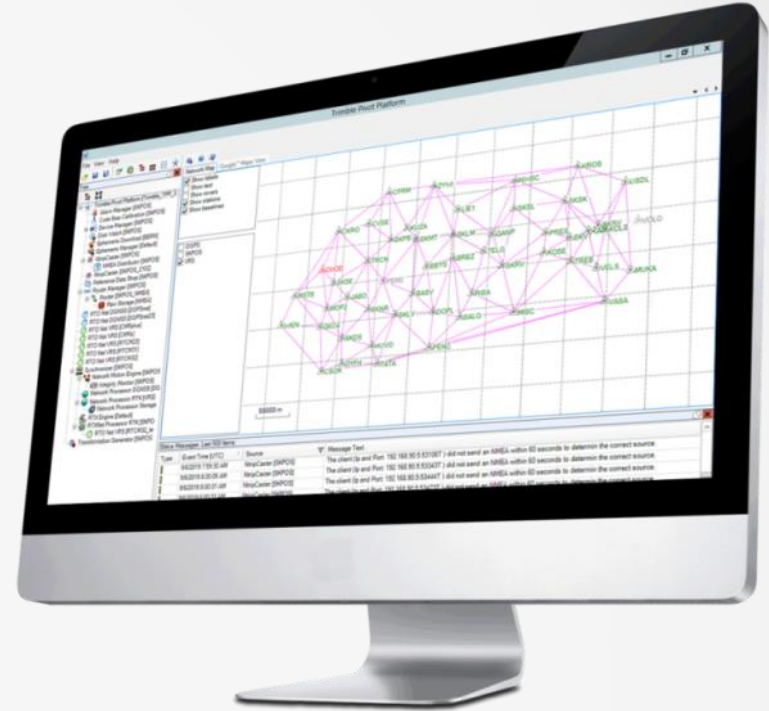
- Control software:



- Version 5.1.0

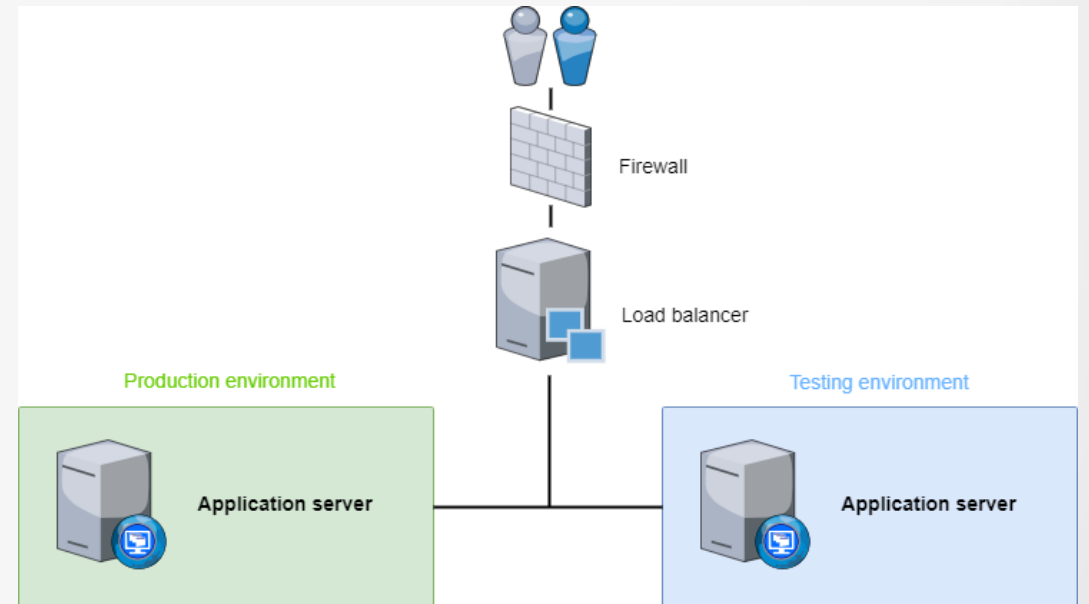
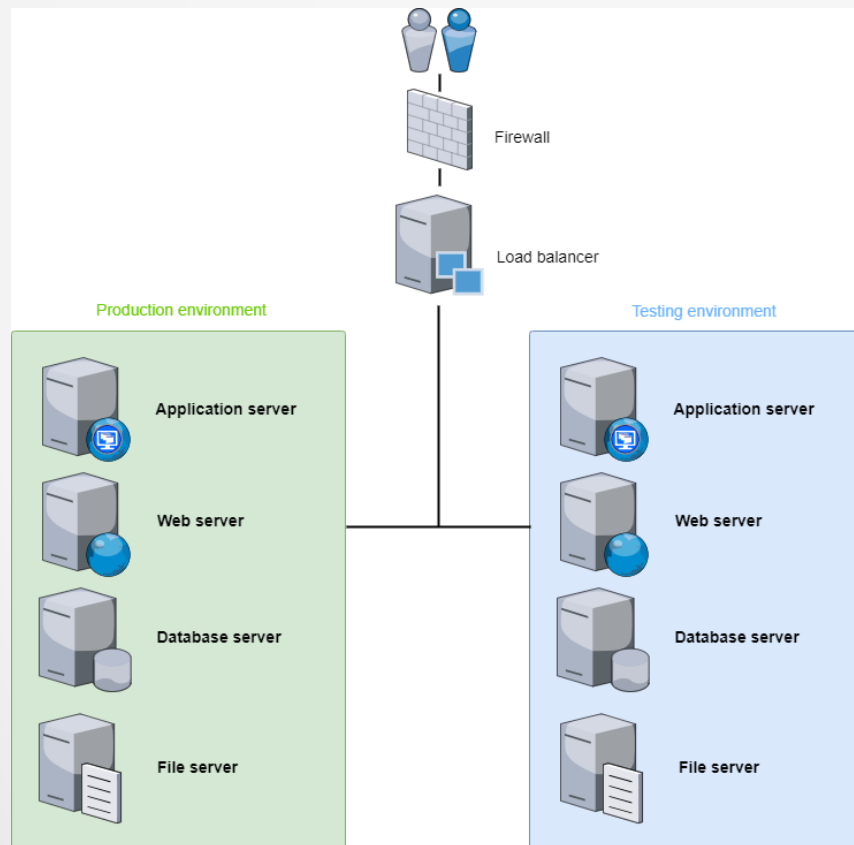
- Receivers firmware

- Alloy: 6.21
- NetR9: 5.61



SKPOS Infrastructure

- 2022 - Distributed environment was changed to single server (Trimble recommendation)



SKPOS portfolio

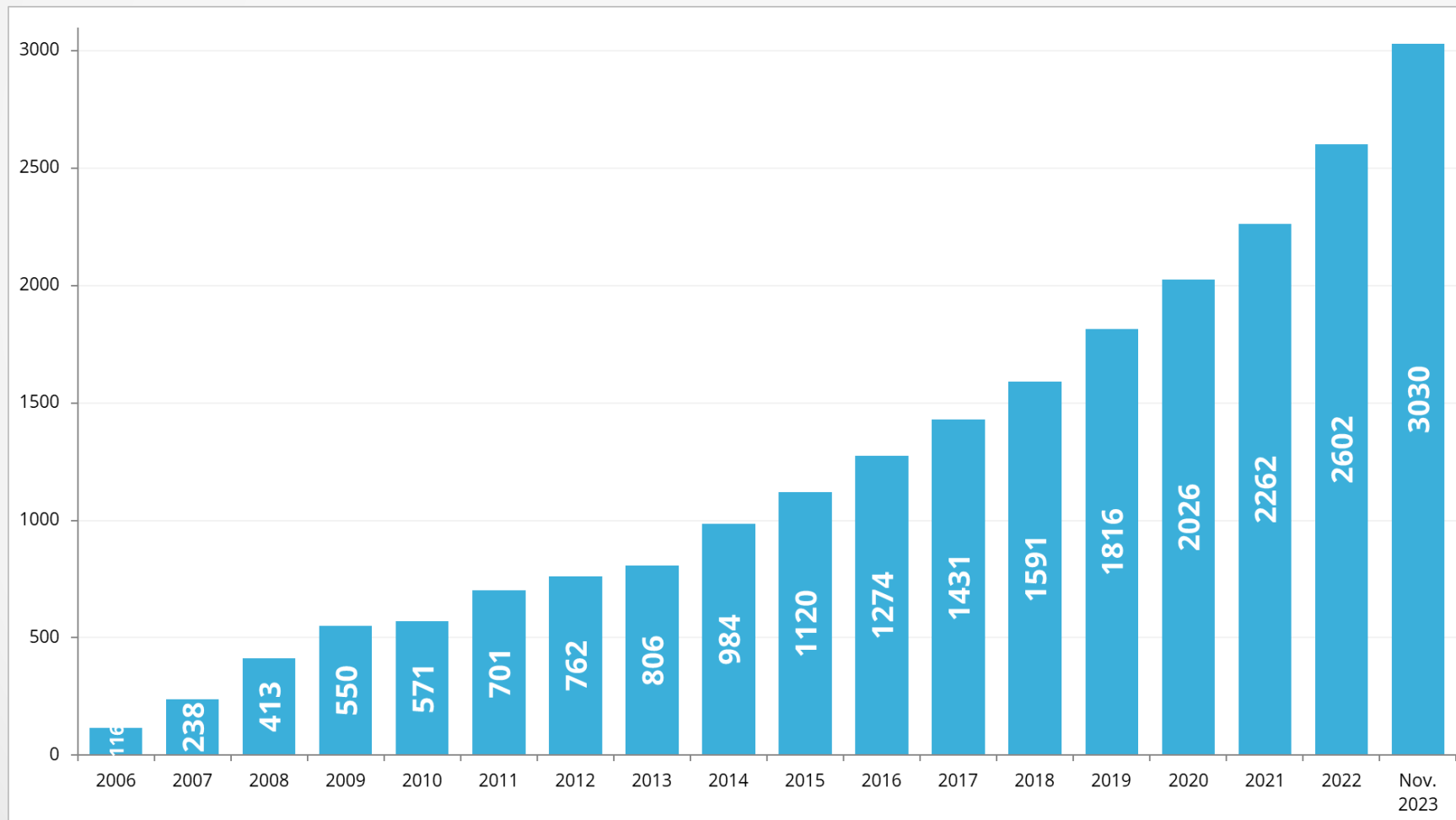
Data formats – content - charges

**Only network solution (Network RTK in VRS concept) is provided.
No single RTK!**

Package	Content	Duration	Format	Flat rate
SKPOS_mm	RINEX 1000 h	year	RINEX 2.x, 3.x	50 € 70 €
SKPOS_cm (year)	RTK unlimited + 50 h RINEX	year	RTCM 2.3, 3.1, RTCM 3.24, CMRx, CMR+	50 € 70 €
SKPOS_cm (month)	RTK unlimited	month	RTCM 2.3, 3.1 RTCM 3.24, CMRx, CMR+	19 € 25 €
SKPOS_dm	DGNSS unlimited	year	RTCM 2.1, 2.3	20 € 25 €

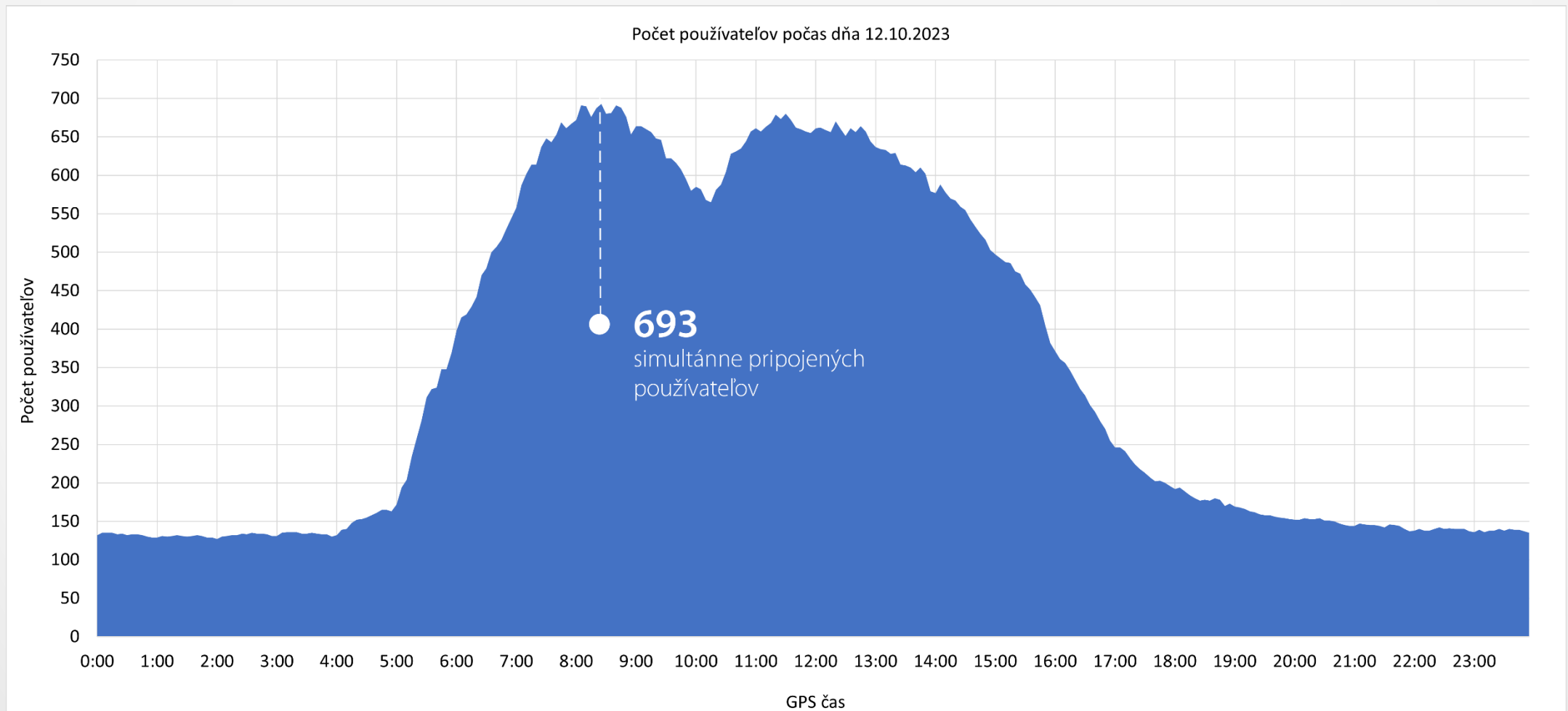
Number of users

- Number of users: 3030 (Nov. 2023)



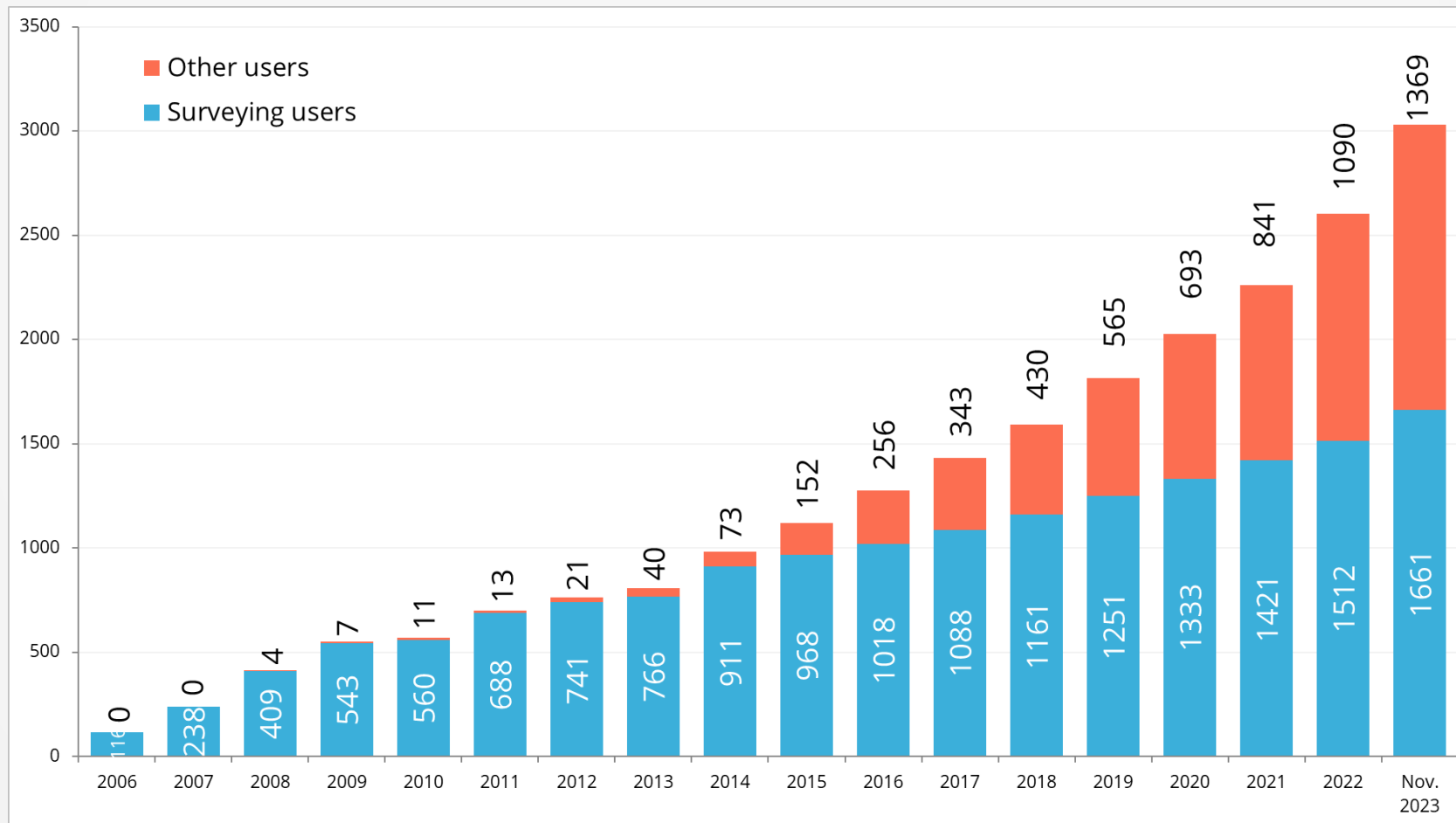
Maximum simultaneous logins

- Maximum 693 simultaneous logins (2023-10-12)



Type of users

- Since 2017 more new SKPOS users were from non geodetic field



Change of the Internet provider (Virtual Private Network) on CORS

● 2022-2023

Tender (only for 4 year period)

● July – September 2023

New operator = new connection installation

● October 2023

Acceptance

Parameters:

Max. delay: 150 ms

Speed: 5/5 Mbps

Availability: 99.9%

Connectivity: Primary and backup





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Thank you for your attention

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