

NATIONAL REPORT



SLOVAKIA



Geodetic and Cartographic Institute Bratislava

Martin Ferianc, Karol Smolik, Branislav Droscak



Geodesy, Cartography and Cadastre Authority of the Slovak Republic

Katarina Leitmannova, Linda Galova



Research Institute of Geodesy and Cartography

Peter Korcak



Slovak University of Technology in Bratislava

Martin Imrisek

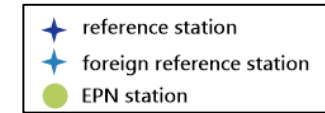
EUREF 2025 SYMPOSIUM

25th – 26th June 2025 | Covilha

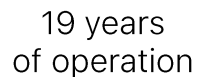


CORS Network:

- ▶ 37 stations (+1)
 - + 25 foreign stations (+3)
- ▶ 37 GPS+GLO+GAL+BDS+SBS
- ▶ 24 pillar/drilled rods stabilization
- ▶ 4 EPN: BBYS, DVCN, GANP, MOP2
- ▶ 1 IGS: GANP



Real-time positioning service:





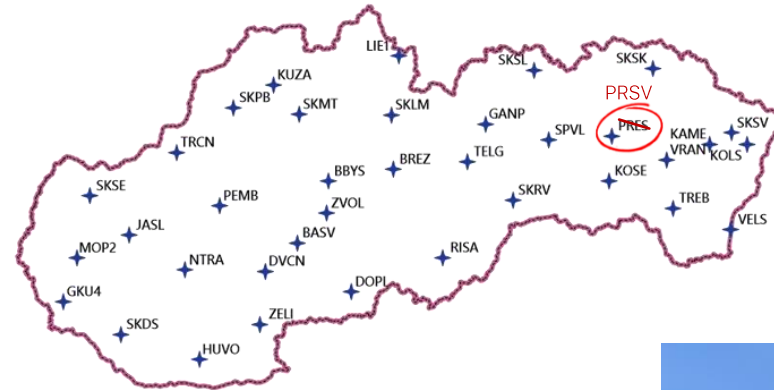
GKU BRATISLAVA

SKPOS®

News since last EUREF Symposium:



► 06/2024 PRES replaced by PRSV



PRES



PRSV



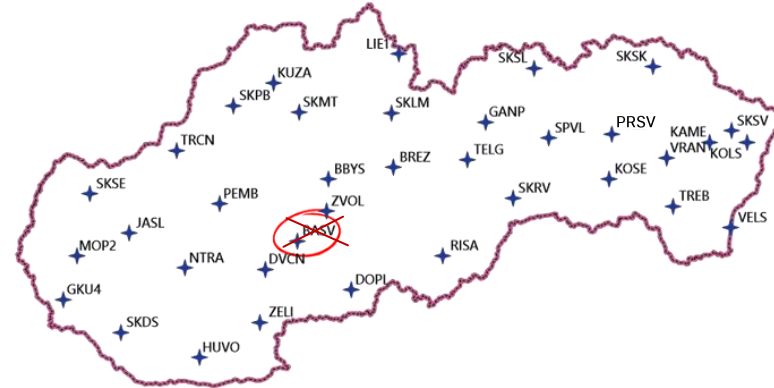
GKU BRATISLAVA

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News since last EUREF Symposium:



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- ▶ 10/2024 **BASV removed**



BASV



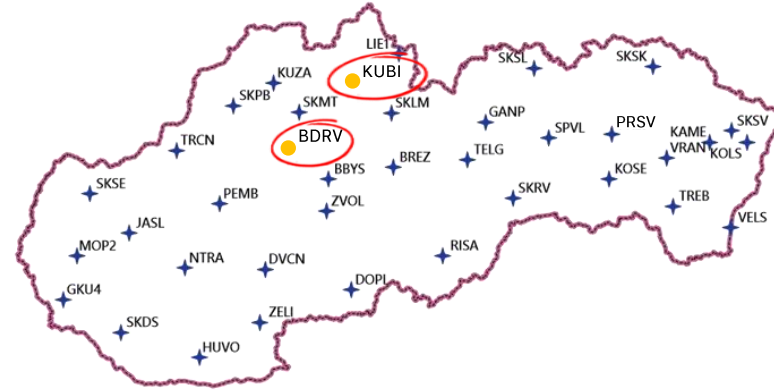
GKU BRATISLAVA

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- ▶ **03/2025 BDRV and KUBI installed (internet connection in preparation)**



BDRV



KUBI



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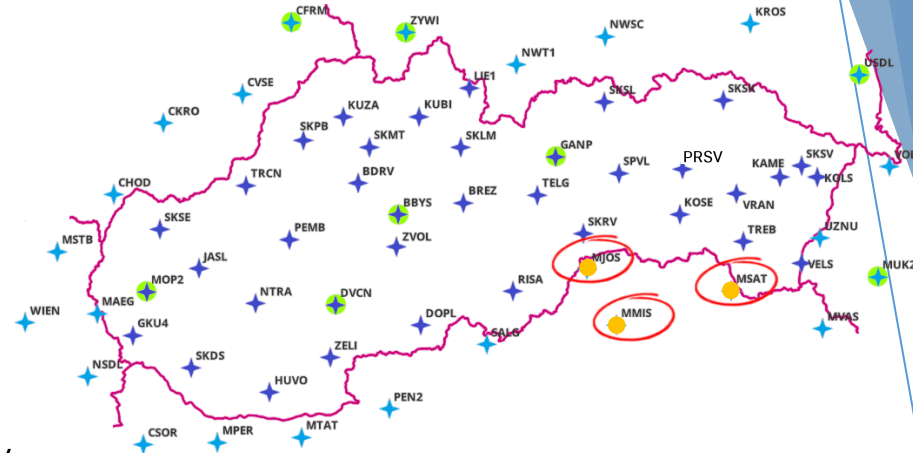
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- ▶ **02/2025 3 new stations (HUN): MJOS, MSAT, MMIS (replaced MISC)**





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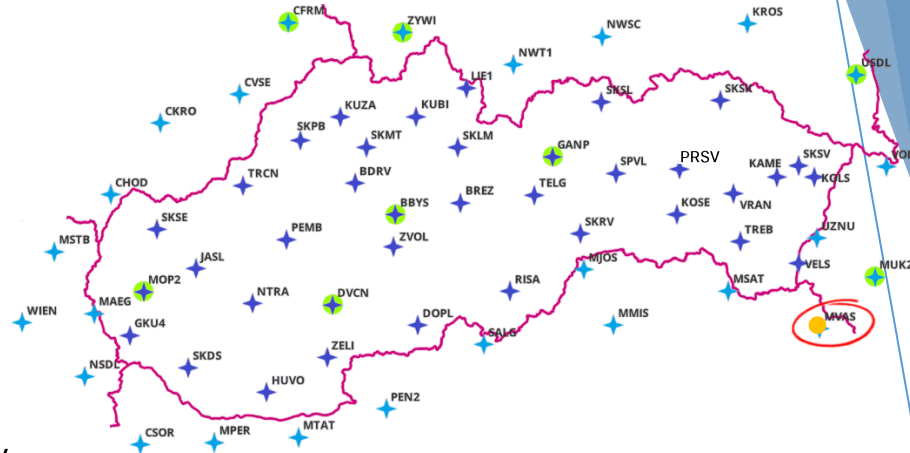
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- ▶ **03/2025 1 new station (HUN): MVAS (replaced VASA)**





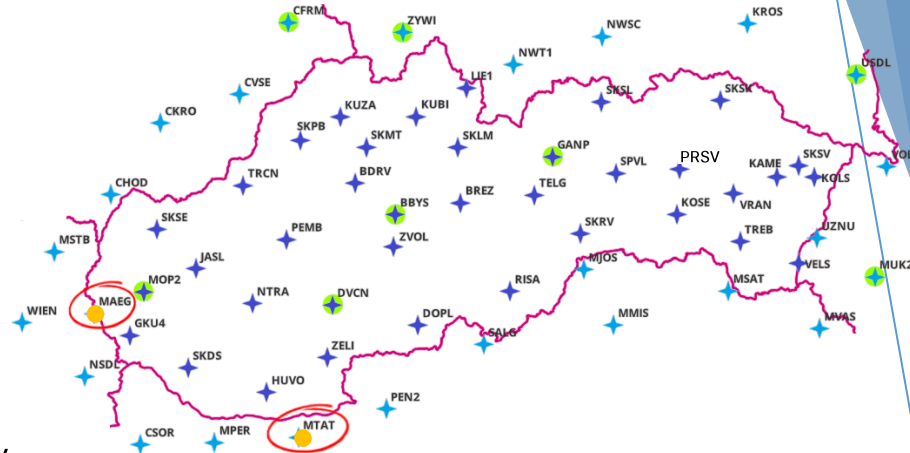
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- ▶ 03/2025 1 new station (HUN): MVAS (replaced VASA)
- ▶ **04/2025 2 new stations: MAEG (AUT), MTAT (HUN) (replaced TATA)**





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News since last EUREF Symposium:



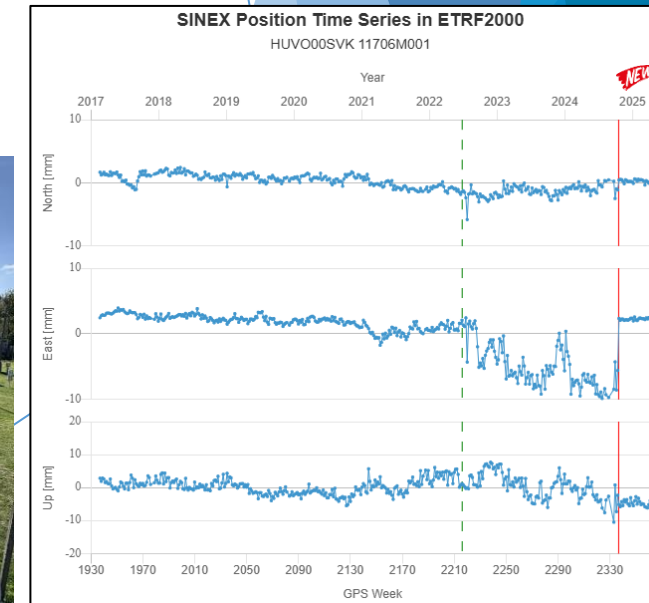
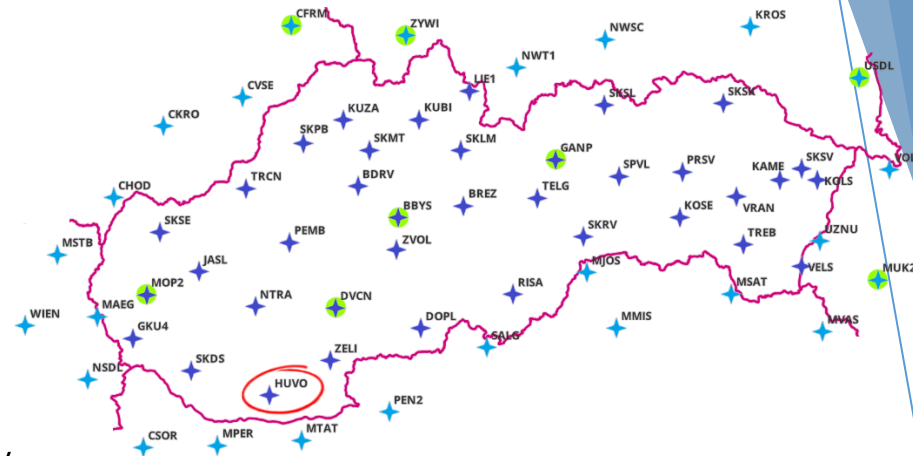
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- ▶ **10/2024 HUVO: antenna changed**





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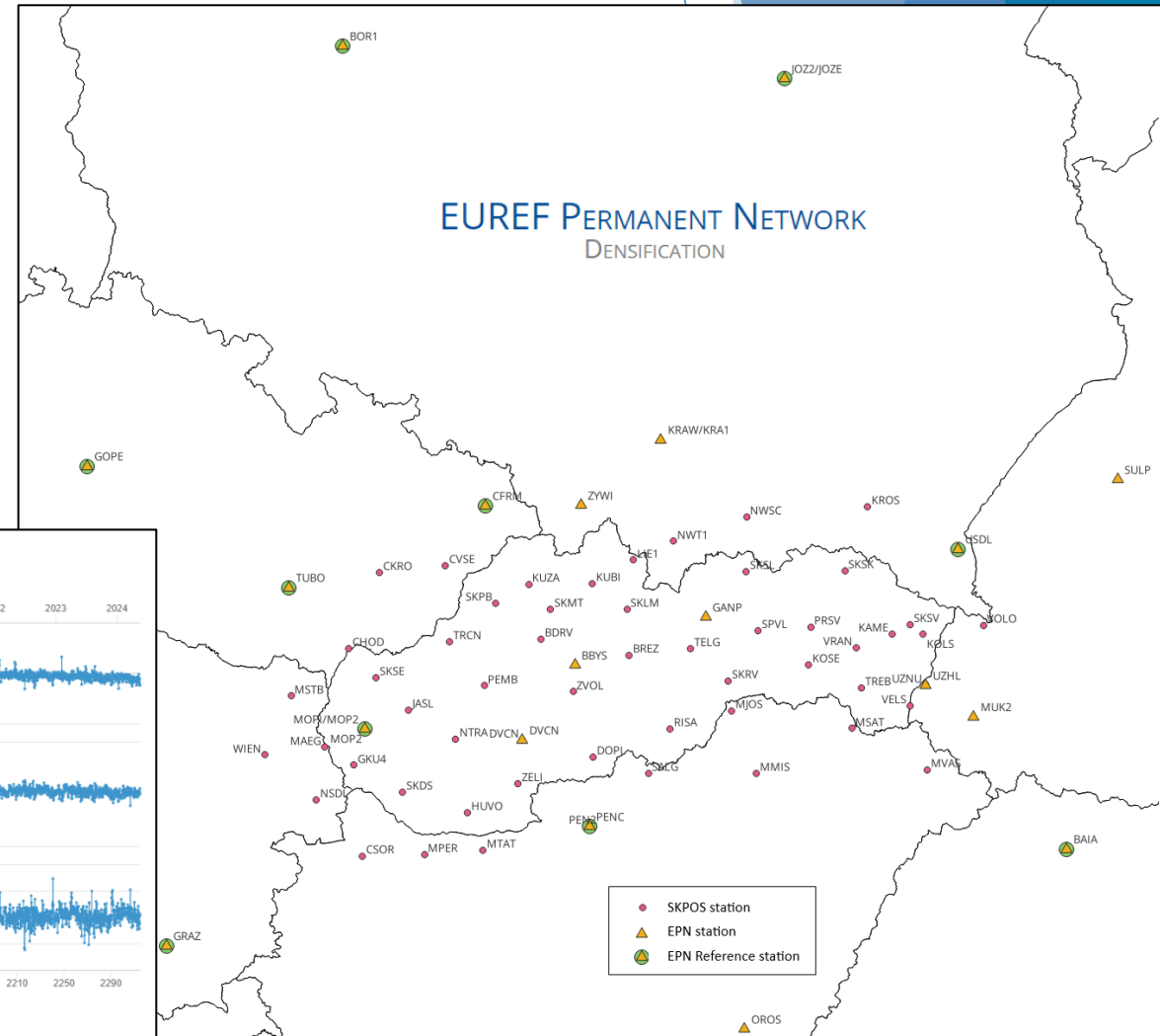
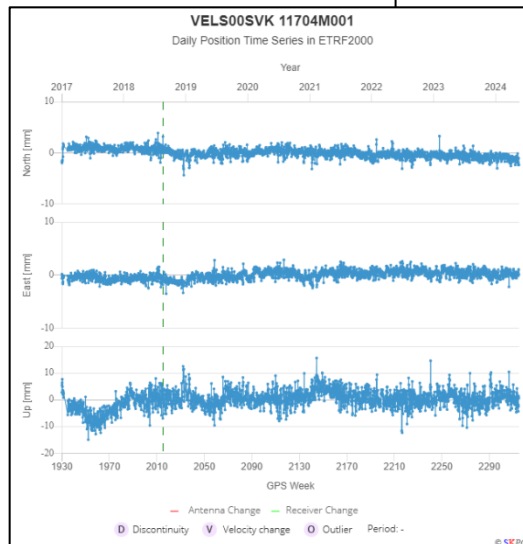
EPN Densification Analysis Center (GKU)

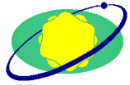
SKPOS network processing:

- ▶ Final daily GRE coordinate solutions
- ▶ 74 stations (SKPOS+foreign+EPN)
- ▶ Bernese GNSS Software 5.4
- ▶ IGS20 reference frame
- ▶ **SKPOS-Repro3 completed**

Contributions to:

- ▶ EPN Densification
- ▶ CEGRN





EPN Analysis Center (SUT)

EPN-subnetwork processing:

- ▶ 94 EPN stations (+2)
- ▶ Bernese GNSS Software 5.4 
- ▶ IGS20 reference frame
- ▶ **EPN-Repro3 completed (IAG 2025, Rimini)**

Provided solutions:

- ▶ Final weekly coordinate solutions (1180 - now)
- ▶ Final daily coordinate solutions (1180 - now)
- ▶ Rapid daily coordinate solutions (2044 - now)
- ▶ Hourly ultra-rapid coordinate solutions (2154 - now)

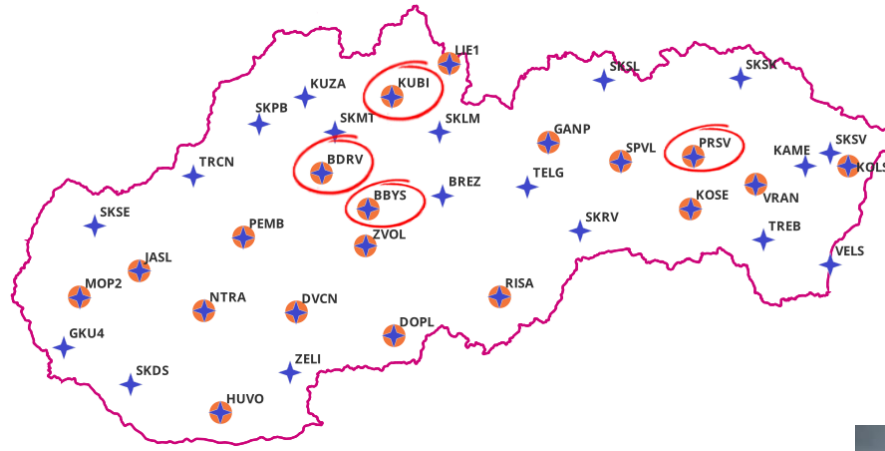




InSAR

National InSAR reflector network:

- ▶ 19 GNSS/InSAR collocated stations
 - ▶ 4 new passive corner reflectors installed
 - ▶ all EPN stations in Slovakia ! (BBYS since 04.06.2025)



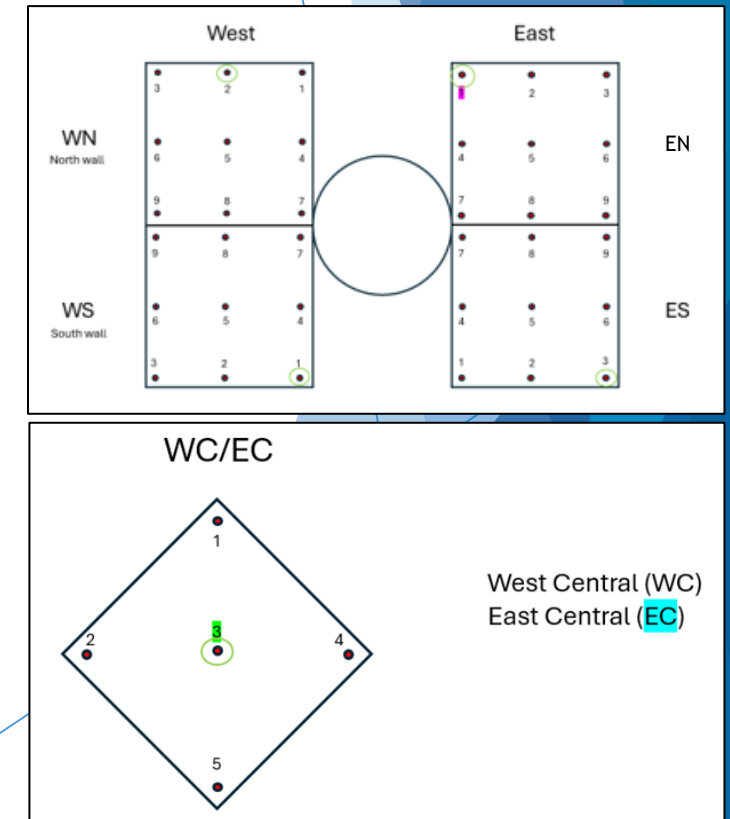
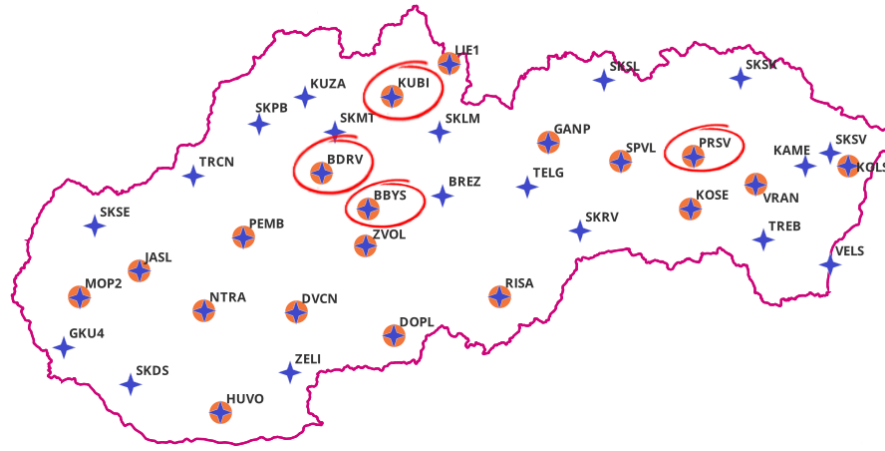
BBYS



InSAR

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 - ▶ 16/19 have measured 3D offsets





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Gravimetry

(New) National Gravimetric Network:

- 0th order (19 points)
- 1st order (91 points)
- vertical gravimetric baseline

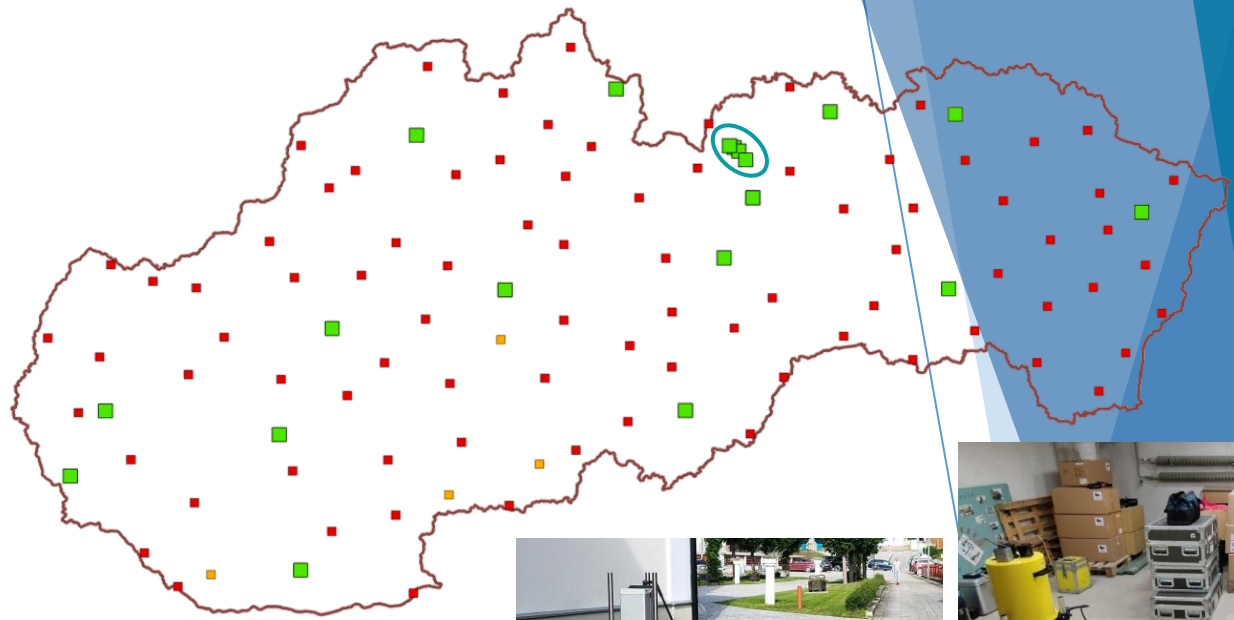
Gravity measurements (2023-2025):

Completed by
the end of 2025

- ▶ 0th order SUT Bratislava (FG5X-247)
- ▶ 1st order IGIK, Warsaw (A10-020)
- ▶ gradients GKU Bratislava (CG-5)

Network adjustment (2025-2026):

- ▶ New national realization S-Gr





EDM calibration baseline

Baseline description:

- ▶ Location: Viničné, Slovakia
- ▶ Length: 606.7 m
- ▶ 7 pillars
- ▶ Heerbrugg (Schwendener) design

EDM calibration:

- ▶ **in operation since 09/2024**
- ▶ registration: <https://kcg.vugk.sk/>

NEW

Accreditation/certification:

- ▶ in the preparation stage
- ▶ ISO 17025





Geospatial data

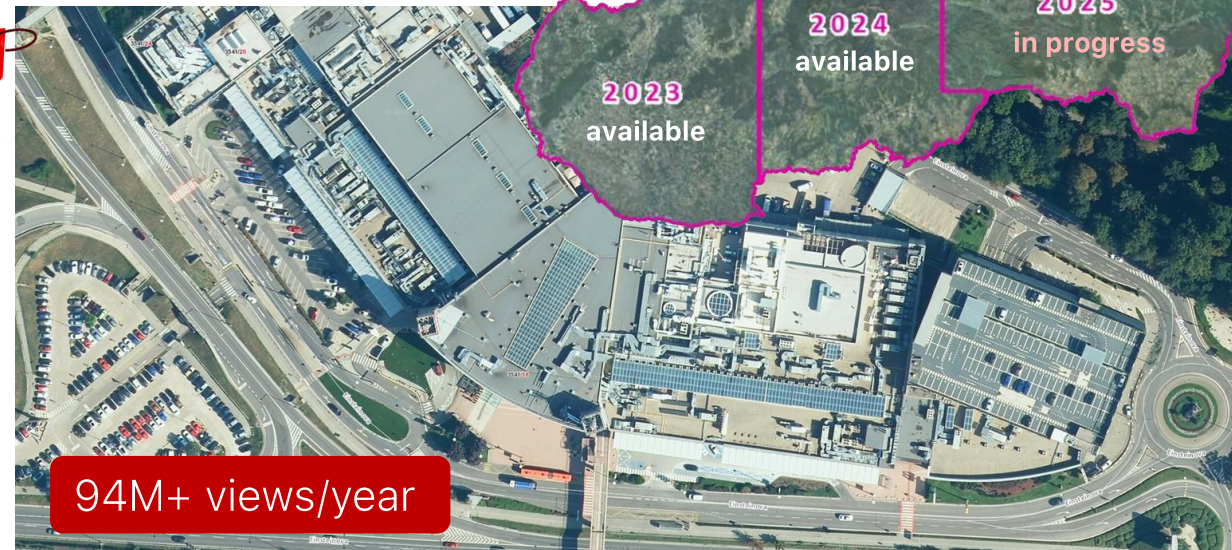
New orthophoto:

- ▶ 3rd cycle of AP (2023-2025)
- ▶ **GSD: 15 cm/pixel**
- ▶ 4 channels (RGBN, 8 bit)
- ▶ $RMSE_{xy} = 18 \text{ cm}$

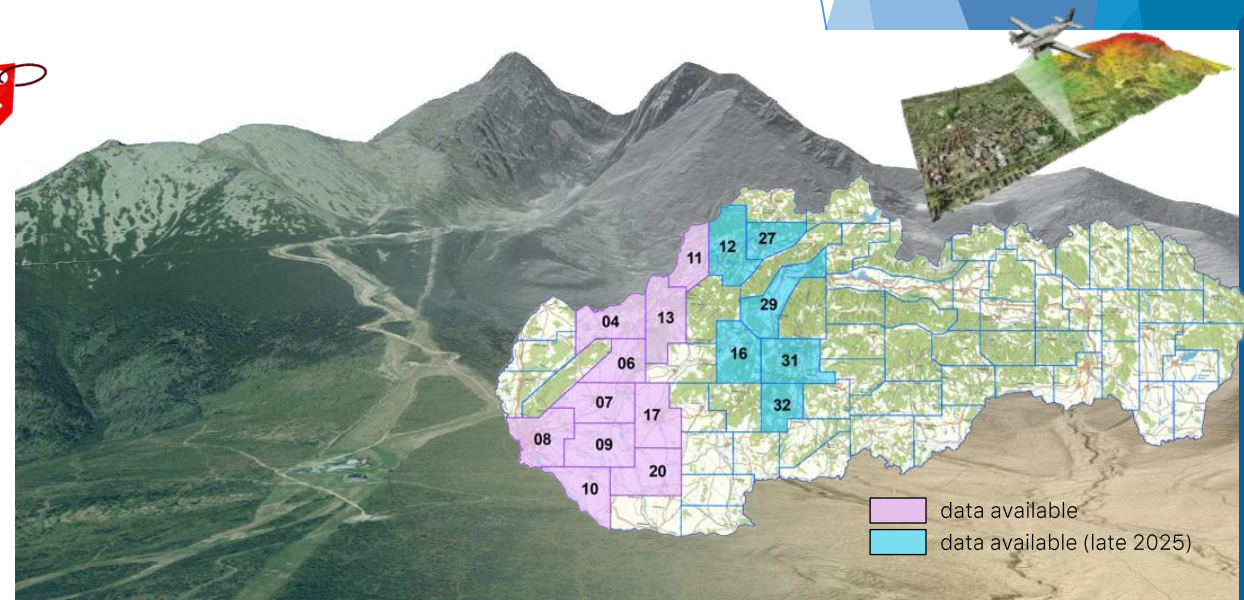
New DTM 6.0/DSM 2.0:

- ▶ 2nd cycle of ALS (2022-2026)
- ▶ 73 locations
- ▶ **0,5 x 0,5 m resolution (40-50 pts/m²)**
- ▶ $RMSE_h = 2 - 8 \text{ cm}$

FREE



FREE





Legislation



Building Act (Zákon NR SR č. 25/2025 Z.z.):

GKU Bratislava: administrator of geodetic control points

- ▶ **§ 22: GKU became the legal entity concerned during the building process**
- ▶ issues a binding opinion on the cancellation of any existing geodetic control point at the construction site
- ▶ better protection of geodetic control points

ZBIERKA ZÁKONOV SLOVENSKEJ REPUBLIKY

Ročník 2025

Vyhlásené: 19. 2. 2025

Vyhlásená verzia v Zbierke zákonov Slovenskej republiky

Obsah dokumentu je právne záväzný.

25

ZÁKON

z 5. februára 2025

Stavebný zákon

a o zmene a doplnení niektorých zákonov (Stavebný zákon)

Národná rada Slovenskej republiky sa uzniesla na tomto zákone:

ČL. I

PRVÁ ČASŤ

ZÁKLADNÉ USTANOVENIA

§ 22

Dotknutá právnická osoba

(1) Dotknutou právnickou osobou je

- a) právnická osoba, ktorá sa vyjadruje ako vlastník, správca alebo prevádzkovateľ stavby dopravnej infraštruktúry, stavby siete technického vybavenia na vymedzenom území, a ako správca bodov geodetických základov; zoznam dotknutých právnických osôb vedie v informačnom systéme úrad,
- b) oprávnená právnická osoba, ktorá sa vyjadruje v oblasti bezpečnosti a ochrany zdravia pri práci, ak ide o stavbu, pri ktorej sa posúdenie bezpečnosti a ochrany zdravia pri práci vyžaduje.

(2) Dotknutá právnická osoba je povinná evidovať údaje o stavbách dopravnej infraštruktúry, stavbách siete technického vybavenia a o bodoch geodetických základov na dotknutom území v informačnom systéme v aktuálnom stave a na žiadosť projektanta poskytnúť mu za úhradu primeraných nákladov potrebné údaje z dokumentácie stavby na účel vypracovania projektovej dokumentácie a navrhnuť technické podmienky pripojenia a ochrany vedení, konštrukcií a vŕtyčových geodetických bodov.

(3) Dotknutá právnická osoba je povinná na základe žiadosti stavebníka alebo ním povereného projektanta poskytnúť údaje a informácie potrebné na vypracovanie stavebného zámeru a vydať záväzné vyjadrenie, v ktorom uvedie konkrétne oprávnené požiadavky na zapracovanie do projektu stavby.

(4) Dotknutá právnická osoba vydáva doložku súladu k projektu stavby, ak si v záväznom vyjadrení k stavebnému zámeru vyhradila posúdenie projektu stavby a uplatnila požiadavky na zapracovanie do projektu stavby.

(5) Lehota na vyjadrenie dotknutej právnickej osoby je 30 dní odo dňa doručenia žiadosti; pri zložitých stavbách môže byť táto lehota najviac 60 dní.



Security

Cyber attack (01/2025):

- ▶ **massive cyber attack in Slovakia**
- ▶ **affected:**
 - ▶ land registry + cadaster offices
 - ▶ UGKK SR/ GKU / VUGK servers
 - ▶ SKPOS
 - ▶ web services
- ▶ **recovery of IT systems still not fully restored**

Recommendation:

- ⚠ **run penetration tests**
- ⚠ **patch SW / systems according to BIA**
- ⚠ **backup servers on separate site**

EUREF Electronic Mail 10-Jan-2025 22:19:43 UTC Message Number 11995

Author: Martin Ferienc
Subject: Data from EPN stations in Slovakia currently unavailable

Dear colleagues,

I would like to inform you that all information systems and servers managed by the Geodesy, Cartography and Cadastre of the Slovak Republic (UGKK SR) and the Geodetic and Cartographic Institute Bratislava (GKU) were hacked by a massive ransomware cyber attack on Sunday 05.01.2025. Since then all data from BBYS, DVCN, GANP, MOP2 and MOPI stations have been temporarily unavailable. Our IT department and other cyber experts are doing their best to resolve this issue as soon as possible.

We apologize for any inconvenience caused.
Best regards,

Martin Ferienc
GKU Bratislava

EUREF Mailing list maintained by the EPN Central Bureau (epncb@oma.be)

Slovak Interior Ministry confirms cadastre system hit by foreign cyber-attack

09. 01. 2025 16:27 | News



The information system of the Office of Geodesy, Cartography, and Cadastre (ÚGKK) of the Slovak Republic, which is used by the cadastral departments of district offices, has been hit by a large-scale cyber-attack originating from abroad. As a precautionary measure, the cadastral departments' workplaces will be temporarily closed until the consequences of the attack are resolved.

The ÚGKK confirmed that its systems were the target of a cyber-attack. "All systems are currently shut down. We are working intensively with the support of cybersecurity experts to restore functionality," the office stated.

9. January 2025 at 19:43

News digest: Quite possibly the worst cyber attack in history of Slovakia

Inf0security Magazine

Infosecurity Magazine Home » News » Slovakia Hit by Historic Cyber-Attack on Land Registry



SME Viac ▾

PREDPLATNÉ   

SME Minúta

Pondelok, 6. január, 2025 | Meniny má Antónia

SME MINÚTA DOMOV ÚTOČNÍCI NAPADLI SYSTÉM KATASTRA N...

18:47 | Domov

Útočníci napadli systém katastra nehnuteľností

THANK YOU



Martin Ferianc



www.skpos.gku.sk



skpos@skgeodesy.sk



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