



Latvian Geospatial
Information Agency

Latvian Geospatial Information Agency

National report

NKG Working Group of Reference Frames (WGRF)

PasilaOffice Center, Opastinsilta12, Helsinki, Finland, 24.-25.03.2026.

Department of Geodesy
Geodetic data control division
Head of Division Aigars Keiselis

Main objectives of the report



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- to inform about the achievements of the past year and plans for year 2026
- to show current status of data processing as LAT LAC



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Latvian coordinate system LKS-2020

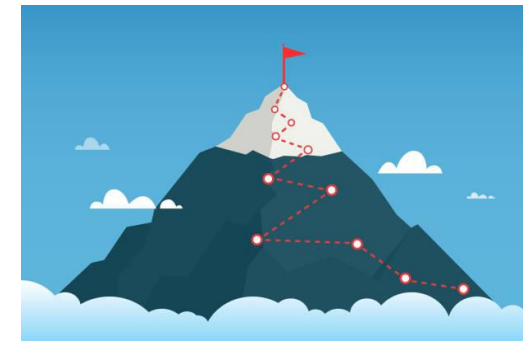
- The changes to the Law on Geospatial information of Republic of Latvia entered into force on 18.03.2025.
- Changes related to LKS-2020 for the Cabinet regulation (*Regulations Regarding the Geodetic Reference System and the Topographic Map System*) will entered into force on 01.10.2026.

Regulations Regarding the Geodetic Reference System and the Topographic Map System) will entered into force on 01.10.2026.

- All necessary information for EPSG are already sent.

The screenshot shows the GeoRepository website interface. The main content area displays search results for 'LKS-2020'. The results table is as follows:

CRSs (6)	Transformations (3)	Point Motion Operations (0)	Concatenated Operations (1)	Conversions (0)	Datums (1)	More...
NAME	CODE	TYPE	EXTENT	DATA SOURCE	REMARKS	REVISION DATE
ETRS89 / TM Baltic93	25884	projected	Europe - Estonia, Latvia, Lith...	EPSG	Used as a common CRS for the B...	2025. gada 10. aprīlis
ETRS89-LVA [LKS-2020]	10303	geocentric	Latvia	EPSG	Replaces ETRS89-LVA [LKS-92] (...	2025. gada 20. oktobris
ETRS89-LVA [LKS-2020]	10304	geographic 3D	Latvia	EPSG	Replaces ETRS89-LVA [LKS-92] (...	2025. gada 20. oktobris
ETRS89-LVA [LKS-2020]	10305	geographic 2D	Latvia	EPSG	Replaces ETRS89-LVA [LKS-92] (...	2025. gada 20. oktobris
ETRS89-LVA [LKS-2020] / Latvia TM	10306	projected	Latvia	EPSG	Replaces ETRS89-LVA [LKS-92] /...	2025. gada 20. oktobris
ETRS89-LVA [LKS-2020] + Latvia 2000 height	10839	compound	Latvia - onshore	EPSG	Replaces ETRS89-LVA [LKS-92] +...	2025. gada 20. oktobris



- The other works of implementation of LKS-2020 will be done till the end of transition period (October 1st, 2026).



LATREF base stations

➤ LATREF consists of 5 long-term and very stable (for most part of base stations, the antenna is bolted to a 3 m high steel pyramid structure, which is secured to a 3 m deep concrete foundation in the ground) geodetic base stations (RIGA, IRBE, VAIN, ALKS, DLKS).



➤ The main goal of LATREF base stations - to maintain link between global and national reference frames and define national coordinate system.



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Technical characteristics of LatPos, till 20.02.2026

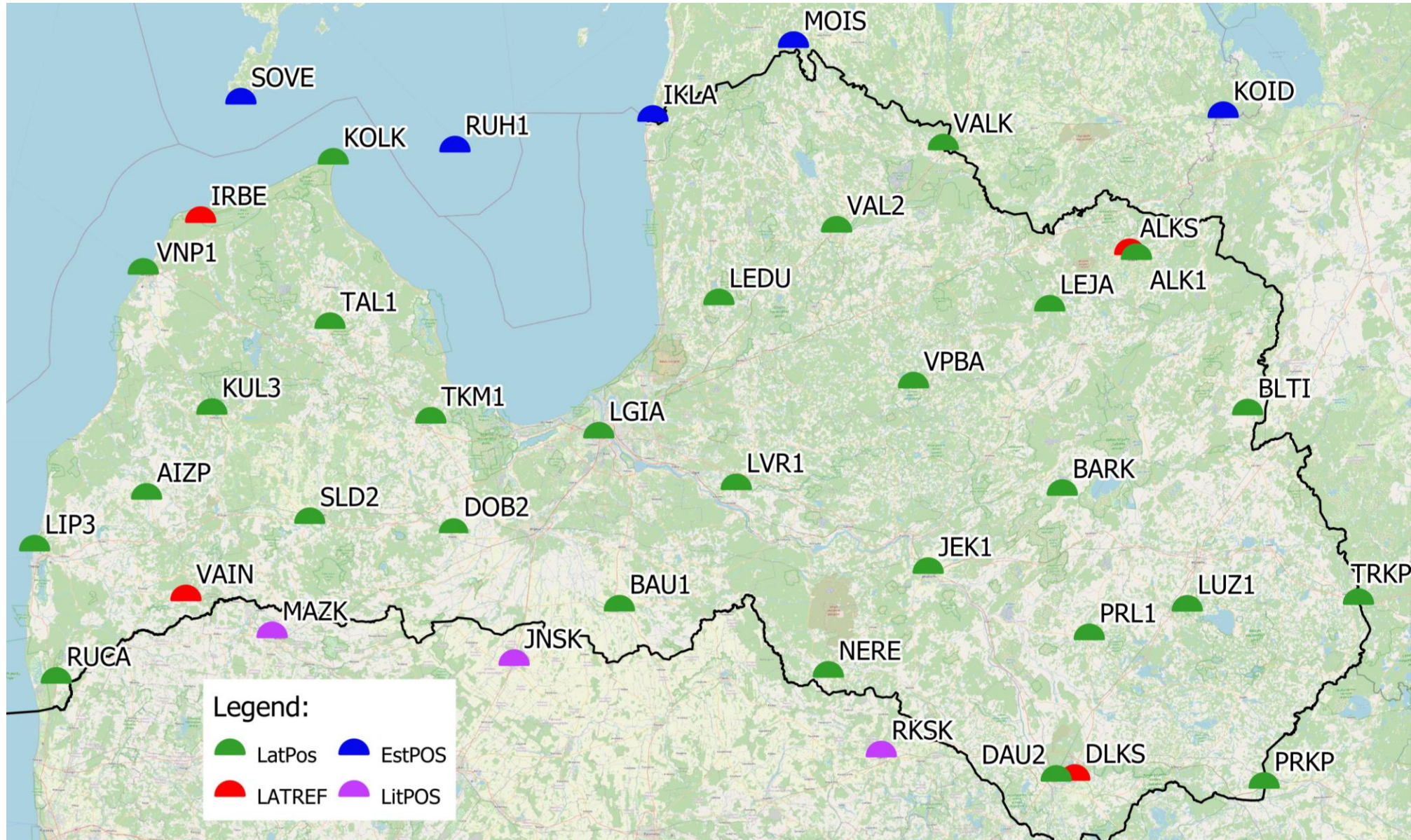
Operating base
stations:

LatPos 28
+
EstPOS 5
+
LitPOS 4

Received GNSS
systems:

- GPS NAVSTAR
- GLONASS
- Galileo
- BeiDOU

Software: GNSS Spider

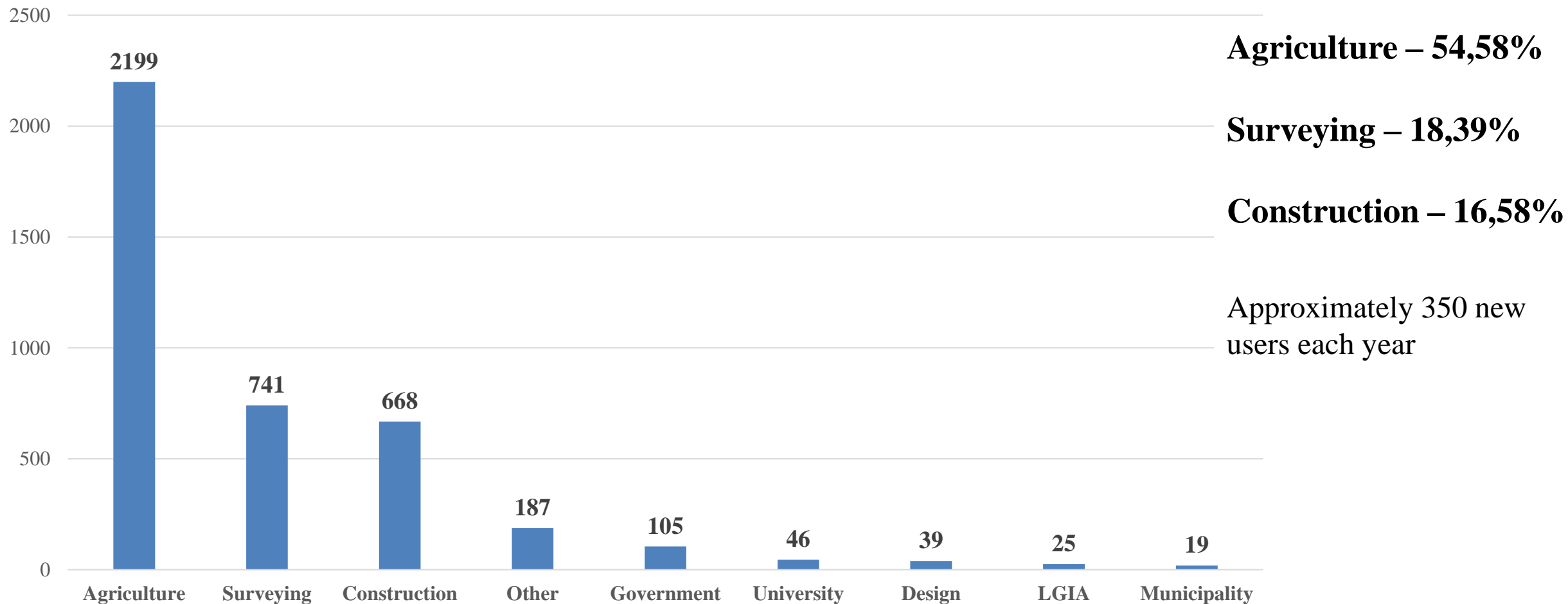


Since July 1, 2018, all services provided by LatPos are free of charge

Distribution of LatPos users by group, till 27.01.2026



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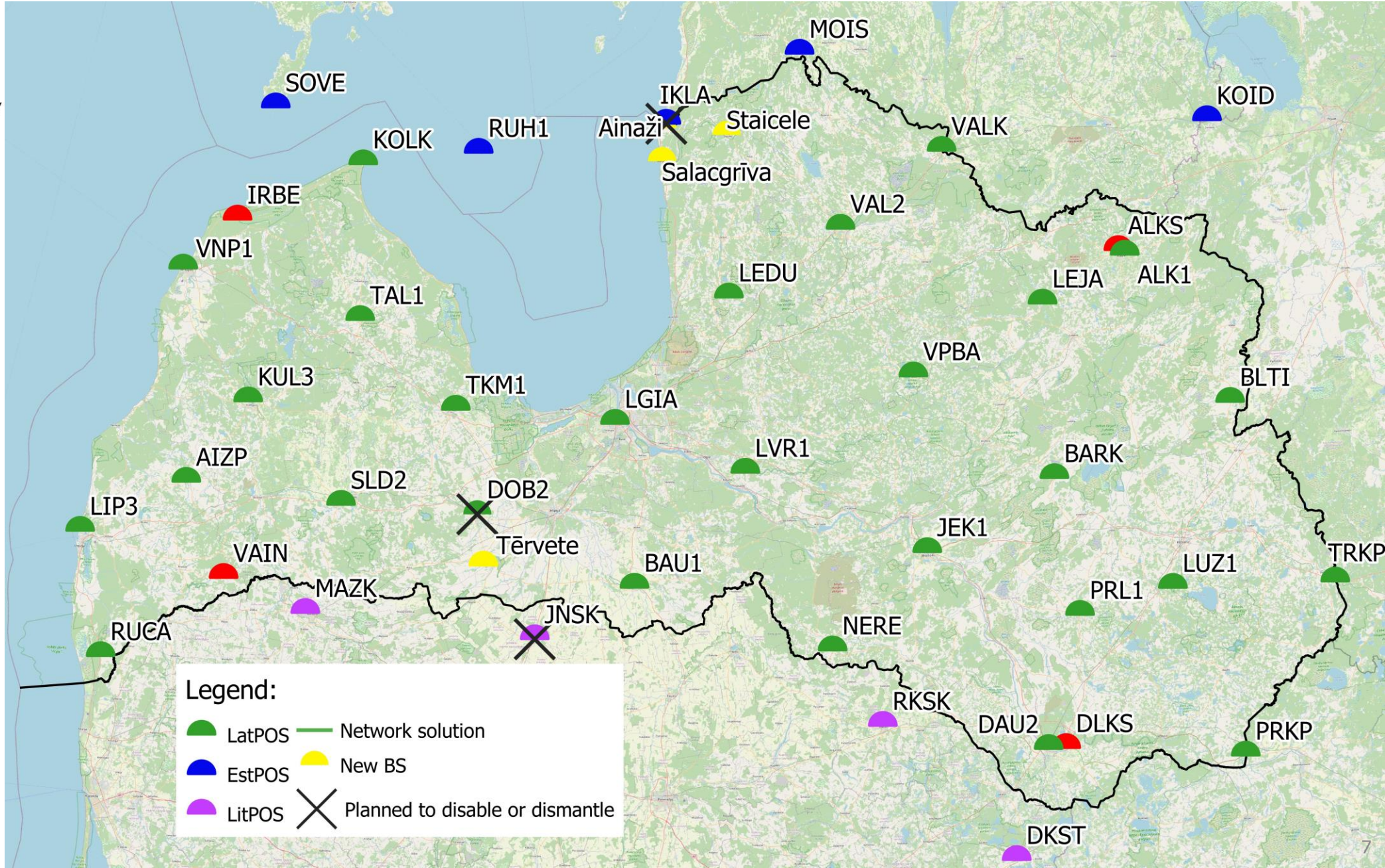
Users themselves choose which field of activity is most suitable for them, based on the LatPos terms of use



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Future plans (1)

- New base station in Ainaži, Staicele or Salacgrīva
- There may be a relocation of 3 base stations
- +1 new base station every year



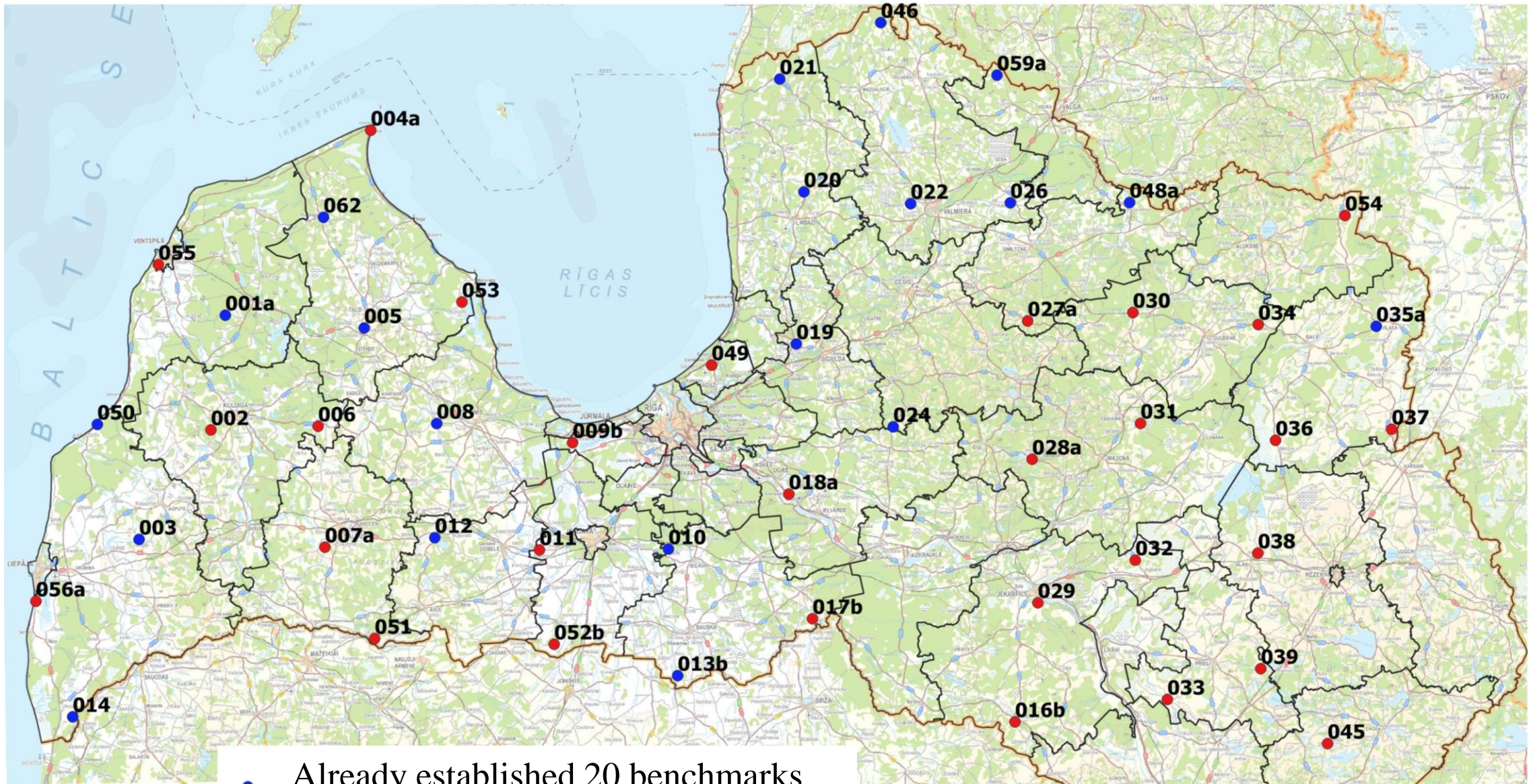
Future plans (2)



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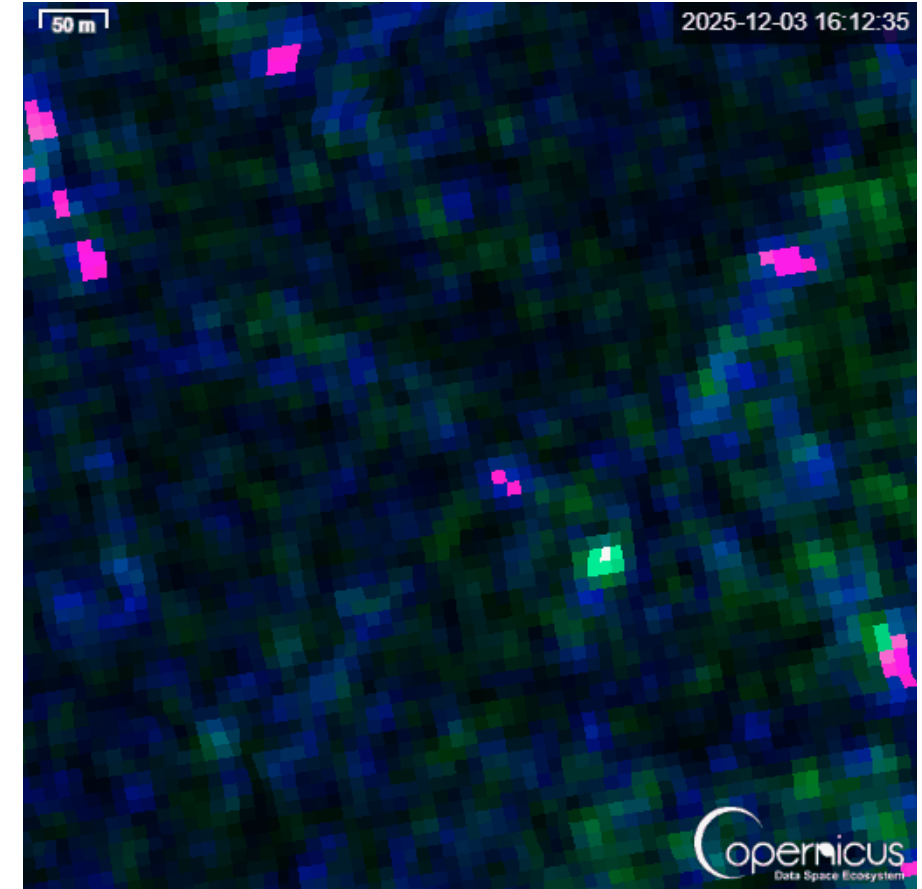
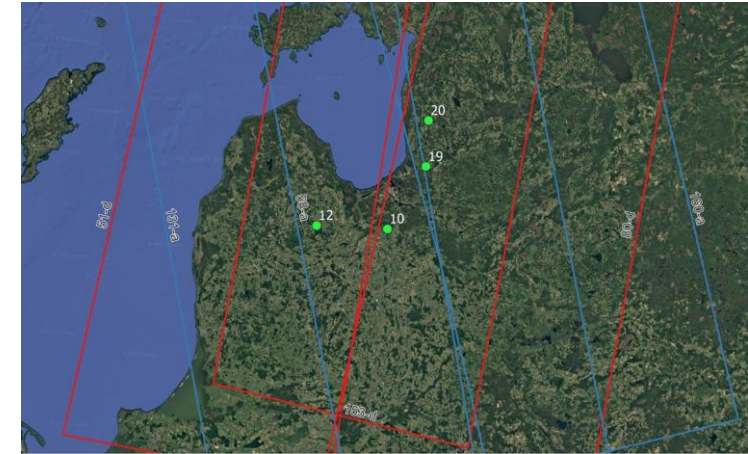
- Improving ionospheric monitoring
- Improvement of RTCM / NMEA monitoring
- Improve and expand knowledge in Jamming and Spoofing monitoring
- Public procurement announced for the provision of LatPos software

The Great network



- Already established 20 benchmarks
- Plans for 2026, 30 new benchmarks

Corner reflectors for InSAR



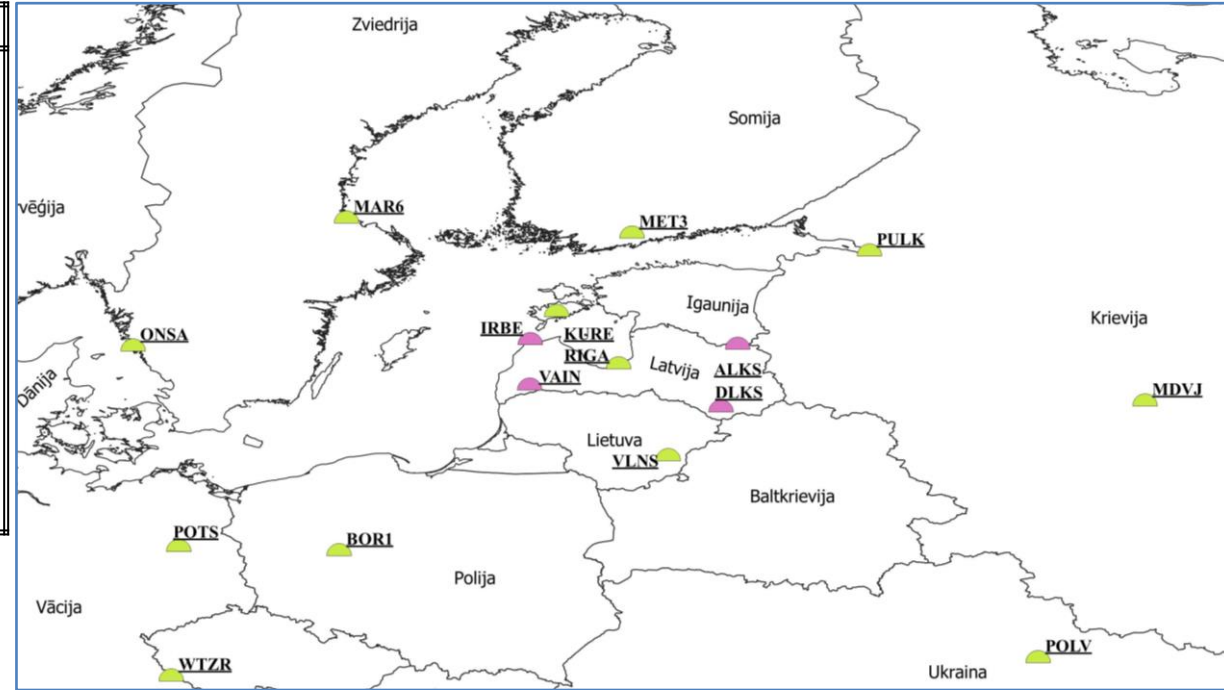
- Some test measurements were provided at the end of 2025
- Reflection for most times is visible, but orientation of reflectors still could be improved



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NKG GNSS AC: LAT LAC (1)

LAT base stations	RN base stations
ALKS (10731M002)	BOR1 (12205M002)
DLKS (10704M003)	KURE (10604S001)
IRBE (10726M001)	MAR6 (10405M002)
VAIN (10736M001)	MDVJ (12309M005)
	MET3 (10503M010)
	ONSA (10402M004)
	POLV (12336M001)
	POTS (14106M003)
	PULK (12305M001)
	RIGA (12302M002)
	VLNS (10801M001)
	WTZR (14201M010)



For Operational:

- Final Daily Coordinate Solution till GPS week 2407
- Final Weekly Coordinate Solution till GPS week 2407



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NKG GNSS AC: LAT LAC (2)

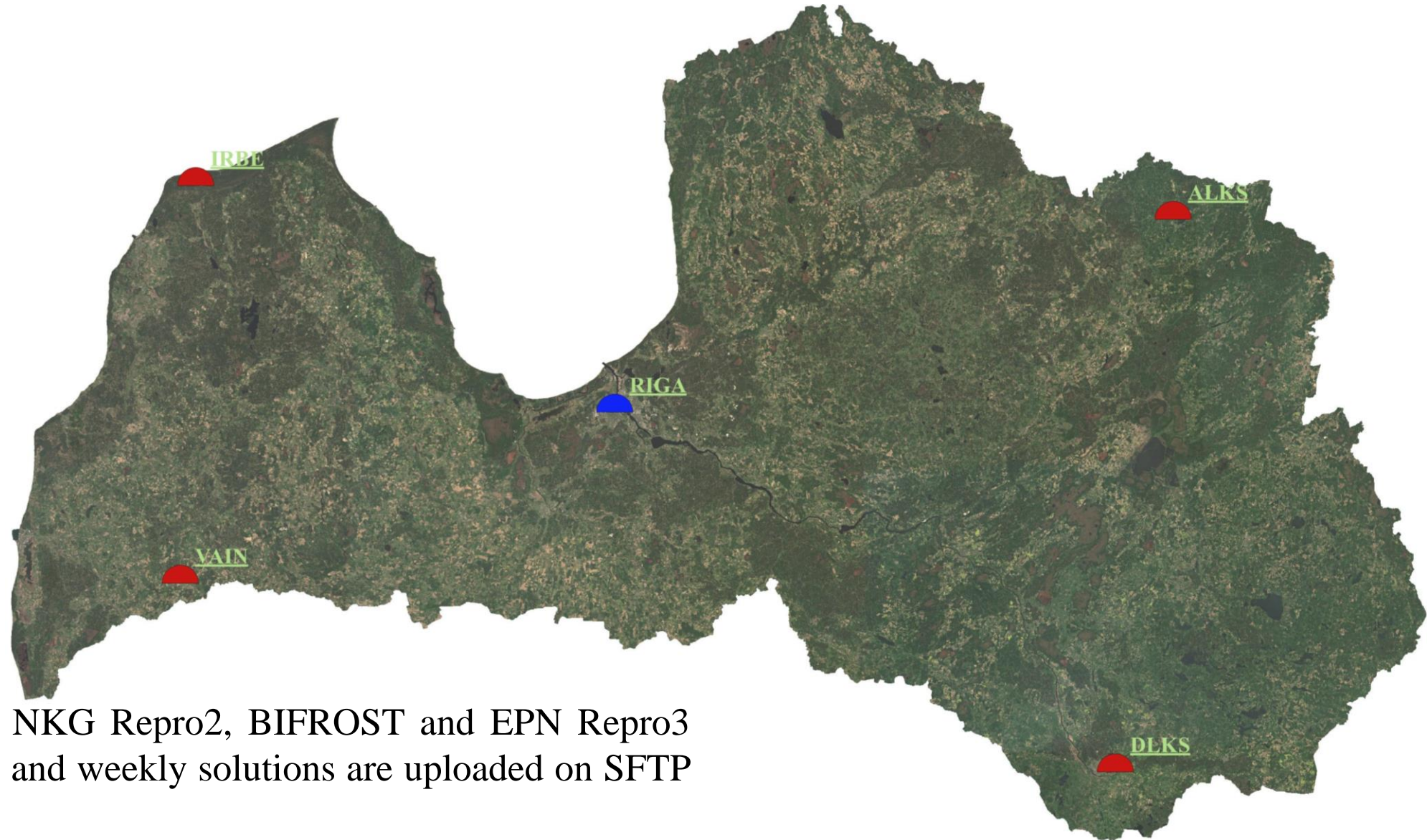
**Latvian base stations
for NKG Repro2,
BIFROST and EPN
Repro3**

ALKS (10731M002)

DLKS (10704M003)

IRBE (10726M001)

VAIN (10736M001)



- LAT LAC is finished NKG Repro2, BIFROST and EPN Repro3 data processing. Daily and weekly solutions are uploaded on SFTP servers



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About 2 LATREF base stations

- EUREF Permanent Network (EPN) Central Bureau Royal Observatory of Belgium announce that from March 22, 2026 on, two LATREF base stations ALKS and DLKS are included in the EUREF Permanent Network.

As of 16 March 2026, 3 permanent GNSS tracking stations are proposed for inclusion into the EUREF Permanent Network.

Overview | Data availability | Data latency | Data quality | Equipment | Satellite systems | Information

Site: Name, DOMES Number, Date Proposed, Station Owner
Location: City, Country (full), Country (code), Tectonic Plate, Lat, long, elev, X,Y,Z
Network: IGS, EPOS
Global ref. frames: ITRF2020, IGS20
Equipment: Proposed Satellite Systems, Antenna Calib., Meta-data
Documentation: Commitment Letter (CL), Station Log (SL), Station Pictures (SP), RINEX Data License (RDL), National Coordinates (NC)
Data: Quality, Availability, Latency

Copy | CSV | Excel | PDF | Print

Search:

Name	City	Country (code)	Date Proposed	Meta-data	Documentation			Availability		Latency		Interested Analysis Centres	Ready		
					SL	CL	SP	BKG	BEV	# BRDC	BKG			BEV	
ALKS00LVA	Aluksne	LVA	2024-06-12	✓	✓	✓	✓	✓	✓	✓	N/A	✓	✓	BKG, NKG, WUT	yes
DLKS00LVA	Daugavpils	LVA	2024-06-12	✓	✓	✓	✓	✓	✓	✓	N/A	✓	✓	NKG, WUT	yes
GVNL00ITA	Leonezza	ITA	2023-05-31	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗		

Showing 1 to 3 of 3 entries

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Thank you for your attention!

Kiitos huomiosi!

Paldies par Jūsu uzmanību!

Aigars Keiselis

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