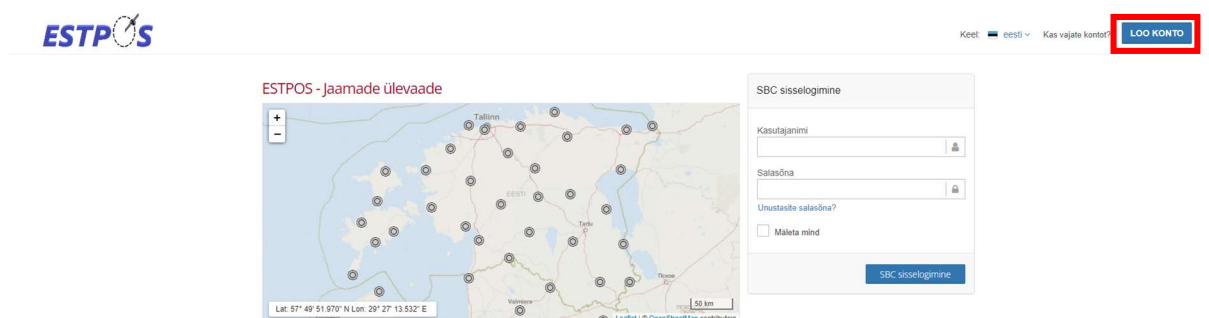




## ESTPOS user manual

### Creating an ESTPOS user account

To use the ESTPOS services a ESTPOS user account must be created in the ESTPOS user portal - <https://gnss-rtk.maaamet.ee/sbc/Account/Index?returnUrl=%2Fsbc>. **If you want to use the ESTPOS RTK corrections in more than one device then separate accounts for each device must be made because only 1 (one) simultaneous connection to the ESTPOS network is allowed with one user account.** Below is a description of how to create an account.



- The user can choose different usernames and passwords for the ESTPOS user portal (account services and settings management, RINEX data download, GNSS computation and transformation) and NTRIP connection (ESTPOS RTK corrections). The separate NTRIP username and password can also be left blank, in which case the same username and password for the NTRIP connection as for the ESTPOS user portal is valid.
- **When choosing a username and password, we recommend using only numbers and letters of the English alphabet. Special characters and letters (@, \*, #, %, ä, õ, ö, ü, etc.) can cause problems when connecting to the ESTPOS network.**

## ESTPOS

Registreeri

Isikuandmed

Kasutajanimi\*

Mõjutab SBC veebijuurdepääsu autentimist

Salasõna\*

(muutmata)

Mõjutab SBC veebijuurdepääsu autentimist

Ntrip kasutajanimi

Mõjutab Ntripi reaalaja andmete autentimist. Kui väljad jäetakse tühjaks, siis kasutatakse SBC veebipääsu kasutajanime

Ntrip salasõna

(muutmata)

Mõjutab Ntripi reaalaja andmete autentimist. Kui väljad jäetakse tühjaks, siis kasutatakse SBC veebipääsu salasõna

- In addition, the name of the account creator, the name of the company, the user's contact email address and the name of the device for which the user uses the account must also be provided during registration. All notifications sent from the ESTPOS network and information letters sent by the ESTPOS user support will be sent to the contact email specified during registration.
- Once the account is successfully created, the user needs to activate it. The ESTPOS user portal will send a letter to the contact email selected during registration, with a link to activate the account.

ESTPOS - SBC account successfully created.

ME

estpos@maaamet.ee

Adressaat

⚙️

😊

↩️ Vasta

↩️ Vasta kõigile

➡️ Saada edasi

⋮

R 06.12.2024 10:23

**Subject: ESTPOS - SBC account successfully created.**

Dear

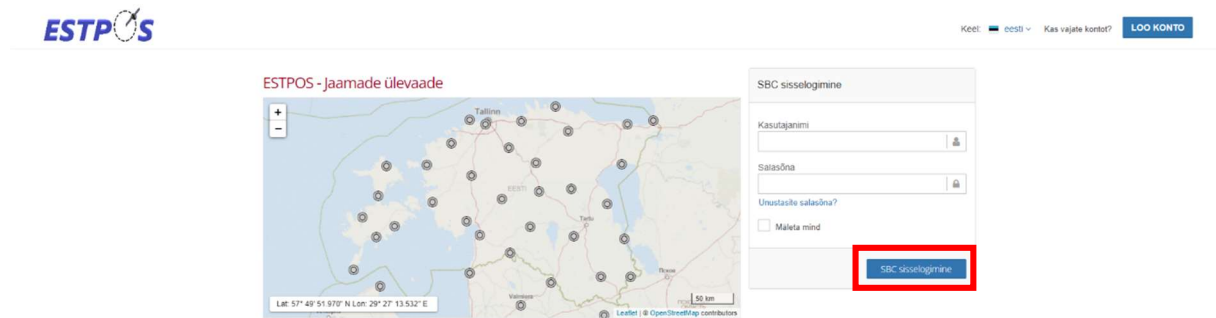
Thank you for your registration at ESTPOS. Before you can log in to your account, please confirm your registration by executing the following activation link within the next 5 days:

<https://gnss-rtk.maaamet.ee/sbc/Account/RegistrationConfirmation/0ZZYyowEVPgUP5DgyHvGuxqRYLE3Mq6nJfNYgSe3DhgZ4QDu0Beg0sjgcavv9Np>

Afterwards you will be able to log in at <https://gnss-rtk.maaamet.ee/sbc/> with user name TEST\_USER

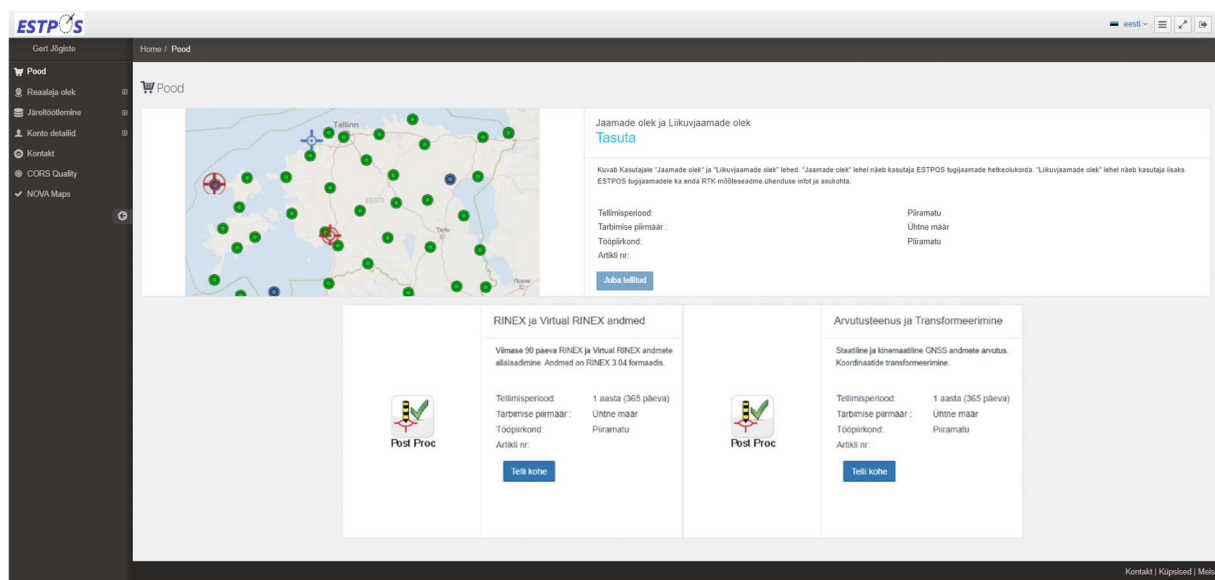
Best Regards  
Your ESTPOS Team

- If the account has been successfully activated, it is possible to log in to the ESTPOS user portal.

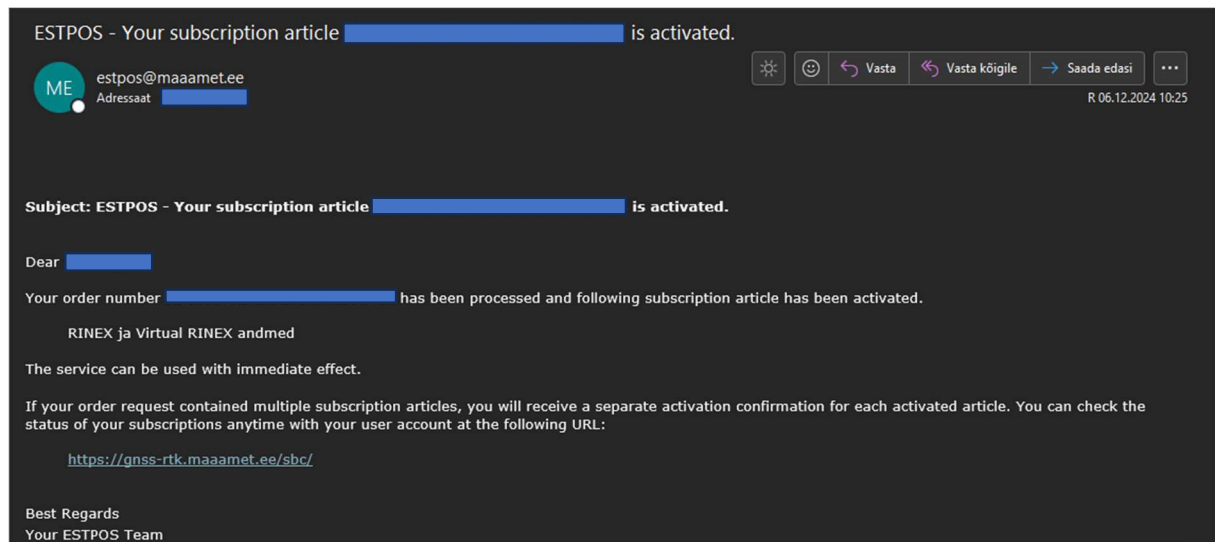


- When logging in to the ESTPOS user portal the ESTPOS services **Shop** is shown. From there, the user can choose the suitable services that he wants to use (the content of the services and a more detailed description can be seen in the chapter **ESTPOS services**):

1. RTK parandid
2. RINEX ja Virtual RINEX andmed
3. Arvutusteenus ja Transformeerimine
4. Jaamade olek ja Liikuvjaamade olek (this service is added automatically to every new account)



- Users must order each desired service separately. After ordering, the services remain in a "Pending" state. If the user has signed the ESTPOS service contract and it has reached the ESTPOS user support, the ESTPOS user support activates the orders and it is possible to start using the selected services. The user will be notified of the activation of the order to the contact email address given during registration.



- Service subscriptions are by default active for 1 year (365 days). When the subscription expires, it must be renewed. The user can renew the orders themselves through the ESTPOS user portal a few weeks before they expire. Notification letters will be sent to users about the expiration.
- The „Jaamade olek ja Liikuvjaamade olek“ service that comes automatically with every account does not need to be updated.

Pood

Reaalaja olek

Järeldõotlemine

Konto detailid

Kasutajaprofiil

Tellimused

Kontakt

CORS Quality

NOVA Maps

Tellimused - TEST\_USER

LE-9J32WXULY0-24341102525

Tellimuse sisu (Artikli nimi)	Arvutusteenus ja Transformeerimine	
Artikli number		
Tellimisperiood	1 aasta (365 päeva)	
Tarbimise piirmäär	Mitte ühtegi	
Tellimuse ID	[redacted]	
Edasimüüja	Mitte ühtegi	
Olek	Aktiivne	
Loomise kuupäev	2024-12-06	
Esialgne aktiveerimine	2024-12-06	
Tellimisperiood		
Alguskuupäev	2024-12-06	
Uuendamise kuupäev	2025-12-06	
Päevi jäänud	362	
Alguskuupäev	Tellimus on aktiivne	Uuendamise kuupäev
<div>2024-12-06362 päeva on järele jäänud2025-12-06</div>		

## ESTPOS services

### RTK parandid:

- Allows the user to receive a correction from the ESTPOS network to determine the precise position of their RTK-GNSS device. **Access to the Ntrip server of the ESTPOS network is allowed only from IP addresses originating from Estonia.**
- ESTPOS network settings:
  - Ntrip server address: gnss-rtk.maaamet.ee (213.184.51.72)
  - Port: 8083
  - Mountpoints: DGNSS\_iMAX; DGNSS\_VRS; DGNSS\_Nearest; RTCM2\_iMAX; RTCM2\_VRS; RTCM2\_Nearest; RTCM3\_iMAX; RTCM3\_VRS; RTCM3\_Nearest; MSM5\_iMAX; MSM5\_VRS ja MSM5\_Nearest.
- DGNSS (Differential GNSS) messages contain only signals from GPS satellites. RTCM2 and RTCM3 messages contain signals from GPS and Glonass satellites. MSM5 messages contain signals from GPS, Glonass, Galileo and Beidou satellites.
- iMAX and VRS are network corrections. For Nearest, the correction comes from the nearest GNSS base station.

### RINEX ja Virtual RINEX andmed:

- Allows to download the last 90 days of RINEX and Virtual RINEX data. A Virtual RINEX file is a RINEX file created from the data of ESTPOS base stations. The data is in RINEX 3.04 format. Older data is archived in the ESTPOS archive, and to use it, you need to contact the ESTPOS user support.
- More detailed information about using the service is given in the chapters **RINEX data** and **Virtual RINEX data**.

### Arvutusteenus ja Transformeerimine:

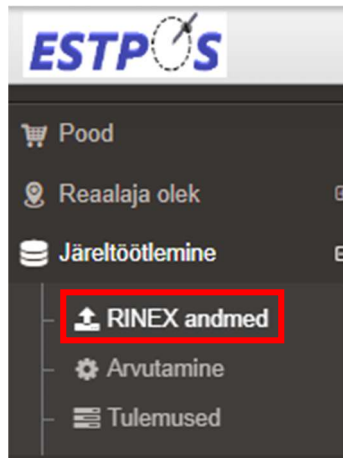
- Allows to calculate precise coordinates that are given in the selected coordinate system based on the uploaded rover data and data from the ESTPOS base stations on the **Computation** subpage of the **Post Processing** page. Computations are made with the Leica Infinity software.
- Allows to transform the geocentric coordinates of the WGS84 system into the Estonian national L-EST97 planar coordinate system on the **Transformation** subpage of the **Post Processing** page.
- More detailed information about using the service is given in the chapters **Computation** and **Transformation**.

### Jaamade olek ja Liikuvjaamade olek:

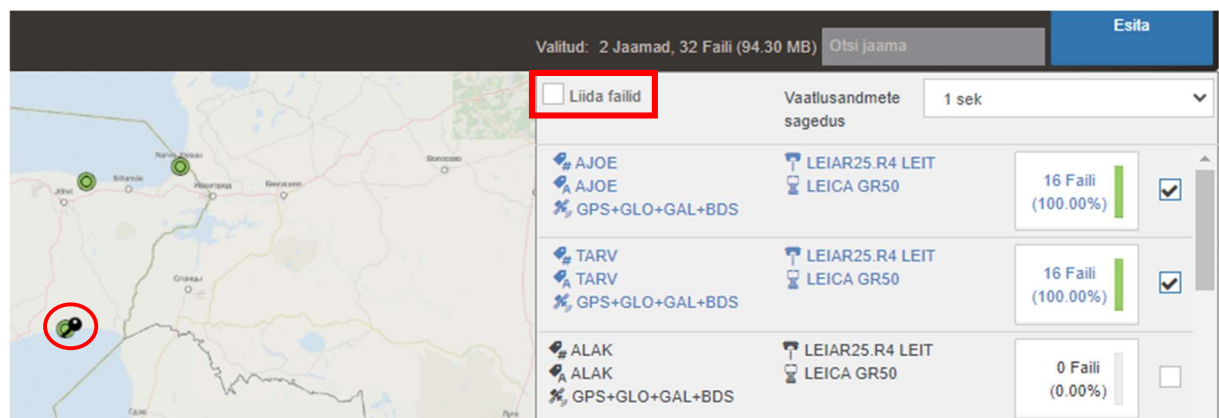
- In the left menu of the user portal, under **Live Status**, the pages **Site Status** and **Rover Status** are displayed.
- **Site Status** shows users the live status of all ESTPOS reference stations. **Rover Status** shows users the live status of all ESTPOS reference stations and the status and location of their GNSS-RTK rover.

## RINEX data

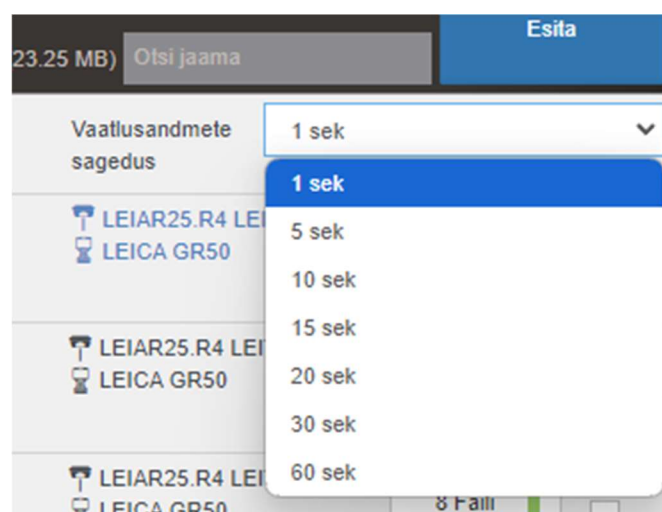
- 1) Select **Post Processing** and **RINEX Data**.



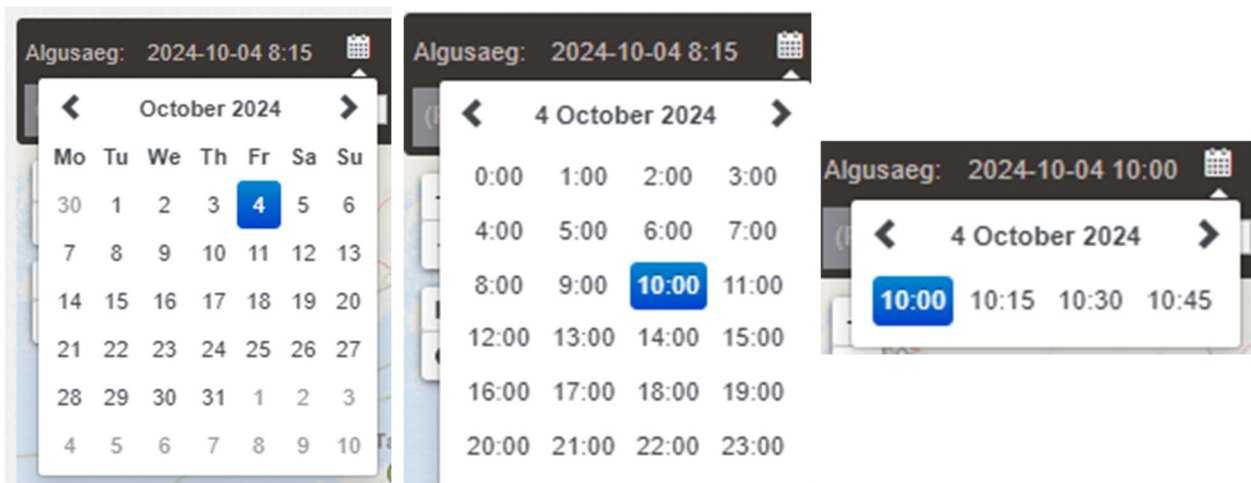
- 2) Select a GNSS station or stations (either from the map or use the search on the right to search for a station). A black key icon appears on selected stations.
- 3) By default, all RINEX files are 15 minutes long. Using the **Merge files** option, all files of one base station are merged into one RINEX file.



- 4) The rate of observation data can be selected under the station search bar.



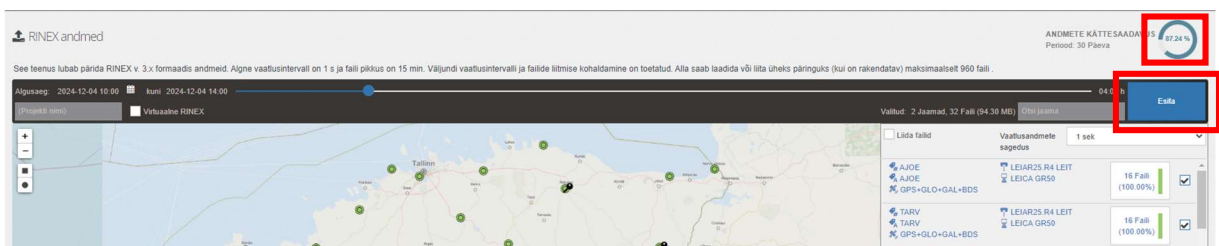
- 5) Press the calendar icon to select a date. After the date, select the time of the file start time and finally the quarter hour of the start time (00, 15, 30, 45).



- 6) The length of the file can be changed using the blue circle in the header. The length of the file is visible in the right part of the header.



- 7) When the setup is completed press **Submit**.



- 8) Above the **Submit** button is an indicator of data availability for the last 30 days. By clicking on the indicator, you can get more detailed information about the availability of RINEX data of ESTPOS base stations for the last 30 days.





9) Press **Confirm**.

RINEX andmed

Päringu tegija TEST\_USER sees 2024-12-11 10:57:57

**Kinnita** Katkesta

Nõutud sisu

Ajavahemik: 2024-12-04 10:00 Jaamad: AJOE, TARV (2)	Kestvus: 04:00 h 32 Faili, 94.30 MB, Vaatlusandmete sagedus: 1 sek
#1 ajoe339i00.rnx.zip, 2.93 MB ✓ 2024-12-04 10:00 - 10:15, Epohhid: 900	AJOE (10653M001), GPS, GLONASS, Galileo, BeiDou 59° 00' 43" N, 27° 25' 26" E, 59.8m
#2 ajoe339i15.rnx.zip, 3.06 MB ✓ 2024-12-04 10:15 - 10:30, Epohhid: 900	AJOE (10653M001), GPS, GLONASS, Galileo, BeiDou 59° 00' 43" N, 27° 25' 26" E, 59.8m

10) The user is then automatically taken to the **Results** page. Press **Download All** to download the RINEX data.

Reaalaja olek

Järeltöötlamine

RINEX andmed

Arvutamine

Tulemused

Konto detailid

Kontakt

CORS Quality

NOVA Maps

Tulemused

Sellel lehel kuvatakse kategooriate kaupa kõik SBC järeltöötlusteenusega seotud tulemused.

RINEX andmed

Virtuaalse RINEX-i andmed

Koordinaatide arvutused

1. Taotletud 2024-12-11 11:00  
Projekt: *Tühi*  
Jaamad: AJOE, TARV (2)  
Soovitatud algusaeg: 2024-12-04 10:00

Kestvus: 04:00 h, 32 Faili (0)  
Vaatlusandmete sagedus: 1 sek  
Andmete terviklikkus: 100%  
Epohhid: 28800

**Laadige kõik alla**

Kõik RINEX tulemused, mis on vanemad kui 2024-09-12 eemaldatakse automaatselt.

< 1 >

11) In the pop-up window choose **Yes**.

Kas olete kindel?

Brauser alustab nüüd failide allalaadimist, palun ärge sulgege seda akent või allalaadimine peatatakse. Sõltuvalt teie brauseri sätetest võite saada iga faili jaoks salvestamise dialoogi akna. Soovitame brauseri konfigureerida nii, et kõik allalaetavad failid salvestataks vaikekohta. Kas soovite allalaadimist kohe alustada?

**Jah** Ei

12) Files have been successfully downloaded.

Reaalaja olek

Järeltöötlamine

RINEX andmed

Arvutamine

Tulemused

Konto detailid

Kontakt

CORS Quality

NOVA Maps

Tulemused

Sellel lehel kuvatakse kategooriate kaupa kõik SBC järeltöötlusteenusega seotud tulemused.

RINEX andmed

Virtuaalse RINEX-i andmed

Koordinaatide arvutused

1. Taotletud 2024-12-11 11:00  
Projekt: *Tühi*  
Jaamad: AJOE, TARV (2)  
Soovitatud algusaeg: 2024-12-04 10:00

Kestvus: 04:00 h, 32 Faili (0)  
Vaatlusandmete sagedus: 1 sek  
Andmete terviklikkus: 100%  
Epohhid: 28800

Valmis 100%

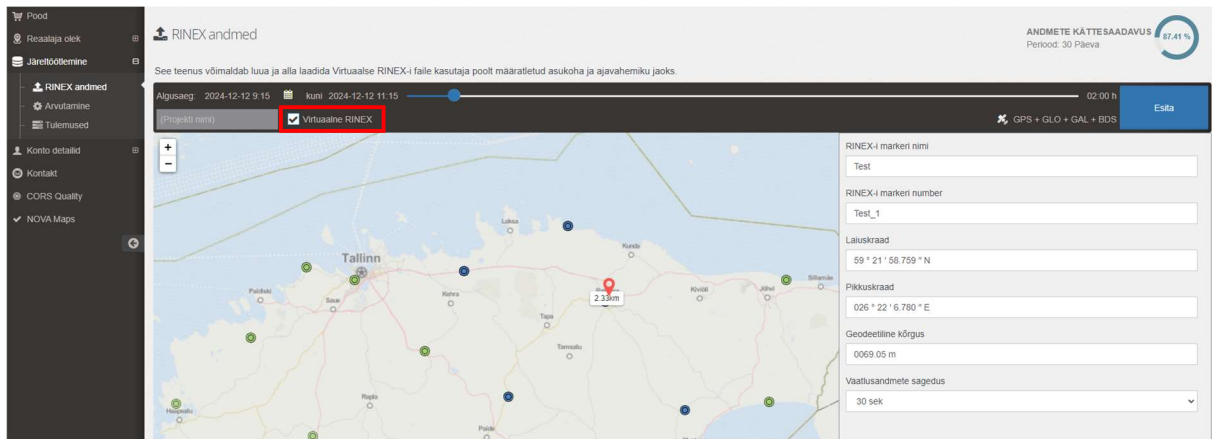
Kõik RINEX tulemused, mis on vanemad kui 2024-09-12 eemaldatakse automaatselt.

< 1 >

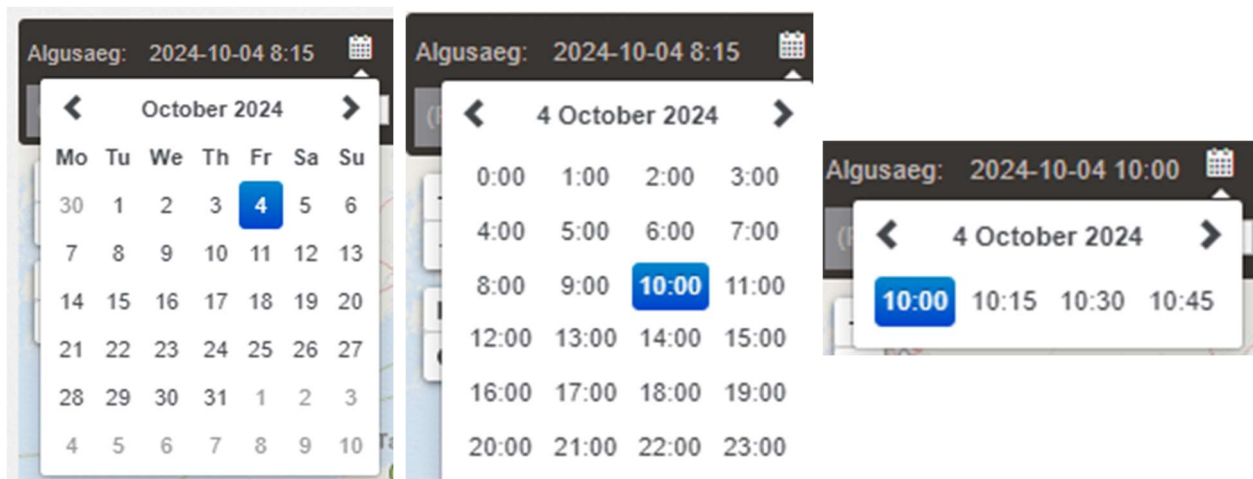


# Virtual RINEX data

- 1) Select **RINEX Data** under **Post Processing**. Check the **Virtual RINEX** box.



- 2) Insert the coordinates and height (ellipsoidal) of the virtual point.
- 3) Press the calendar icon to select a date. After the date, select the time of the file start time and finally the quarter hour of the start time (00, 15, 30, 45).



- 4) The length of the file can be changed using the blue circle in the header. The length of the file is visible in the right part of the header.



- 5) When the setup is completed press **Submit**.

6) Press **Confirm**.

Virtuaalse RINEX-i andmed "Test"		<b>Kinnita</b>	Katkesta
Päringu tegija TEST_USER sees 2024-12-12 11:47:22			
<b>Nõutud sisu</b>			
Laiuskraad: 59 ° 21 ' 58.759 " N		Soovitatud algusaeg: 2024-12-12 9:15	
Pikkuskraad: 026 ° 22 ' 6.780 " E		Kestvus: 02:00 h	
Geodeetiline kõrgus: 69.05 m		Vaatusandmete sagedus: 30 sek	

7) The user is then automatically taken to the **Results** page. Press **Download All** to download the Virtual RINEX data.

<b>Pood</b> Reaalaja olek Järeltöötlamine RINEX andmed Arvutamine Tulemused Konto detailid Kontakt CORS Quality NOVA Maps	<b>Tulemused</b>					
	Sellel lehel kuvatakse kategooriate kaupa kõik SBC järeltööstusteenusega seotud tulemused.					
	<table><tr><th>RINEX andmed</th><th>Virtuaalse RINEX-i andmed</th><th>Koordinaatide arvutused</th></tr><tr><td colspan="3"><div>2. Taotletud <b>2024-12-12 11:52:53</b>, Projekt: <a href="#">Test</a></div><div>Soovitatud algusaeg: 2024-12-12 09:15:00</div><div>Kestvus: 02:00 h</div><div>Laiuskraad: 59° 21' 58.759" N</div><div>Pikkuskraad: 26° 22' 06.780" E</div><div>Kõrgus: 69.05 m</div></td></tr></table>	RINEX andmed	Virtuaalse RINEX-i andmed	Koordinaatide arvutused	<div>2. Taotletud <b>2024-12-12 11:52:53</b>, Projekt: <a href="#">Test</a></div> <div>Soovitatud algusaeg: 2024-12-12 09:15:00</div> <div>Kestvus: 02:00 h</div> <div>Laiuskraad: 59° 21' 58.759" N</div> <div>Pikkuskraad: 26° 22' 06.780" E</div> <div>Kõrgus: 69.05 m</div>	
RINEX andmed	Virtuaalse RINEX-i andmed	Koordinaatide arvutused				
<div>2. Taotletud <b>2024-12-12 11:52:53</b>, Projekt: <a href="#">Test</a></div> <div>Soovitatud algusaeg: 2024-12-12 09:15:00</div> <div>Kestvus: 02:00 h</div> <div>Laiuskraad: 59° 21' 58.759" N</div> <div>Pikkuskraad: 26° 22' 06.780" E</div> <div>Kõrgus: 69.05 m</div>						

Markeri nimi ja number: Test, Test_1	
Jaamad: <b>TARV</b> , VERG, KUSA, RALL, AV... (5)	✓
Vaatusandmete sagedus: 30 sek, Faili suurus: 875 kb	<b>Lae alla</b>
Satelliidisüsteemid: GPS, GLONASS, Galileo, BeiDou	
Andmete terviklikkus: 100%	
Epohhid: 240	

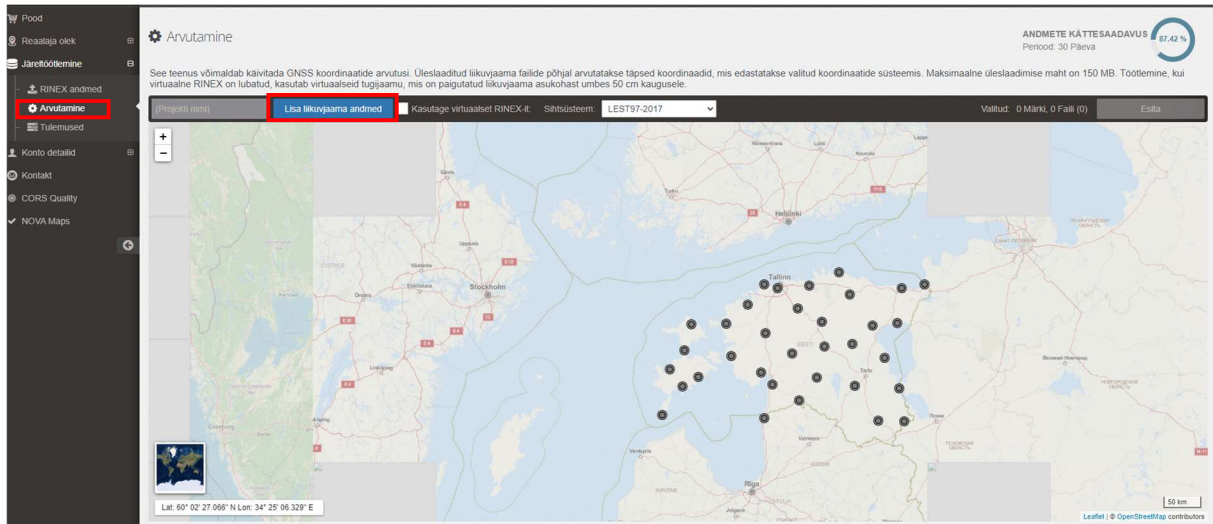
8) Files have been successfully downloaded.

<b>Pood</b> Reaalaja olek Järeltöötlamine RINEX andmed Arvutamine Tulemused Konto detailid Kontakt CORS Quality NOVA Maps	<b>Tulemused</b>					
	Sellel lehel kuvatakse kategooriate kaupa kõik SBC järeltööstusteenusega seotud tulemused.					
	<table><tr><th>RINEX andmed</th><th>Virtuaalse RINEX-i andmed</th><th>Koordinaatide arvutused</th></tr><tr><td colspan="3"><div>2. Taotletud <b>2024-12-12 11:52:53</b>, Projekt: <a href="#">Test</a></div><div>Soovitatud algusaeg: 2024-12-12 09:15:00</div><div>Kestvus: 02:00 h</div><div>Laiuskraad: 59° 21' 58.759" N</div><div>Pikkuskraad: 26° 22' 06.780" E</div><div>Kõrgus: 69.05 m</div></td></tr></table>	RINEX andmed	Virtuaalse RINEX-i andmed	Koordinaatide arvutused	<div>2. Taotletud <b>2024-12-12 11:52:53</b>, Projekt: <a href="#">Test</a></div> <div>Soovitatud algusaeg: 2024-12-12 09:15:00</div> <div>Kestvus: 02:00 h</div> <div>Laiuskraad: 59° 21' 58.759" N</div> <div>Pikkuskraad: 26° 22' 06.780" E</div> <div>Kõrgus: 69.05 m</div>	
RINEX andmed	Virtuaalse RINEX-i andmed	Koordinaatide arvutused				
<div>2. Taotletud <b>2024-12-12 11:52:53</b>, Projekt: <a href="#">Test</a></div> <div>Soovitatud algusaeg: 2024-12-12 09:15:00</div> <div>Kestvus: 02:00 h</div> <div>Laiuskraad: 59° 21' 58.759" N</div> <div>Pikkuskraad: 26° 22' 06.780" E</div> <div>Kõrgus: 69.05 m</div>						

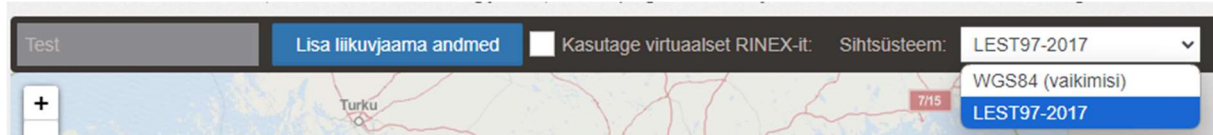
Markeri nimi ja number: Test, Test_1	
Jaamad: <b>TARV</b> , VERG, KUSA, RALL, AV... (5)	✓
Vaatusandmete sagedus: 30 sek, Faili suurus: 875 kb	<b>Valmis</b> <b>100%</b>
Satelliidisüsteemid: GPS, GLONASS, Galileo, BeiDou	
Andmete terviklikkus: 100%	
Epohhid: 240	

# Computation

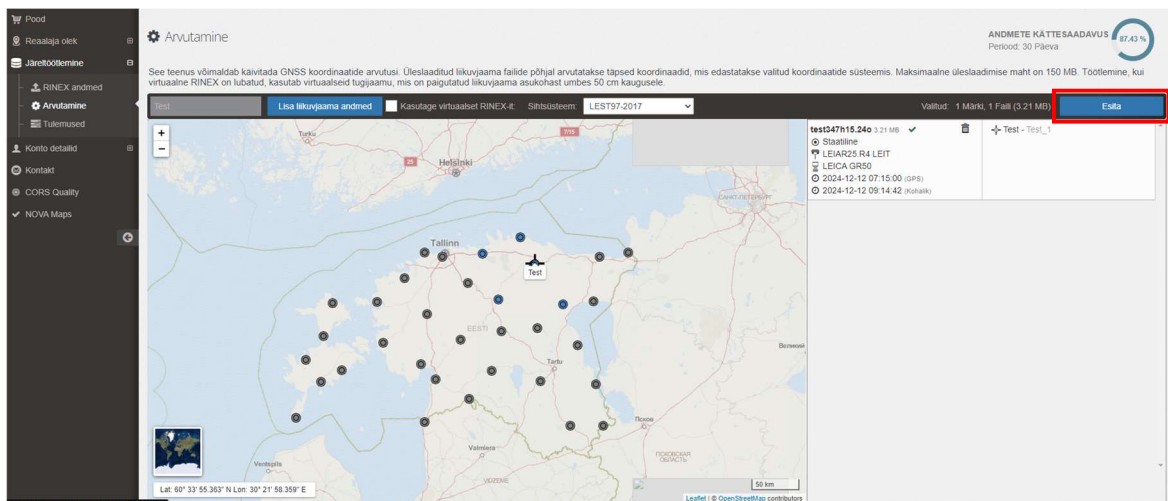
- 1) Choose **Computation** under **Post Processing**.
- 2) To add your rover data select **Add Rover Data**. Only RINEX format data is supported.



- 3) The results (**Target System**) can be computed in the international geodetic system (WGS84) or in the Estonian national coordinate system L-EST97 (LEST97-2017). LEST97-2017 Target System uses the Estonian geoid model to get the orthometric height H.



- 4) Select **Submit**.



## 6) Select **Confirm**.

Koordinaatide arvutamine "Test"

Päringu tegija TEST\_USER sees 2024-12-12 12:27:19

Kinnita

Katkesta

1 Faili, 3.21 MB

## 7) User is taken to the **Results** page.

Tulemused

Sellel lehel kuvatakse kategooriate kaupa kõik SBC järeltöötlusteenusega seotud tulemused.

RINEX andmed Virtuaalse RINEX-i andmed Koordinaatide arvutused

2. Toodeid 2024-12-12 12:27:57 1 Faili, 0 Punktid Sihtsüsteem: LEST97-2017

Projekt: [Test](#) Kasutage virtuaalset RINEX-i: Ei

NB! If the gear icon is visible, then the data is being processed. The duration of data processing depends on the length of the input data file and the recording interval. The calculation of an input data file with a length of 3 hours and a recording interval of 1 second can take up to 20 minutes.

Tulemused

Sellel lehel kuvatakse kategooriate kaupa kõik SBC järeltöötlusteenusega seotud tulemused.

RINEX andmed Virtuaalse RINEX-i andmed Koordinaatide arvutused

2. Toodeid 2024-12-12 12:27:57 1 Faili, 0 Punktid Sihtsüsteem: LEST97-2017

Projekt: [Test](#) Kasutage virtuaalset RINEX-i: Ei

## 8) Results are ready when the button **Full report** is active.

Tulemused

Sellel lehel kuvatakse kategooriate kaupa kõik SBC järeltöötlusteenusega seotud tulemused.

RINEX andmed Virtuaalse RINEX-i andmed Koordinaatide arvutused

2. Toodeid 2024-12-12 12:27:57 1 Faili, 1 Punktid Sihtsüsteem: LEST97-2017

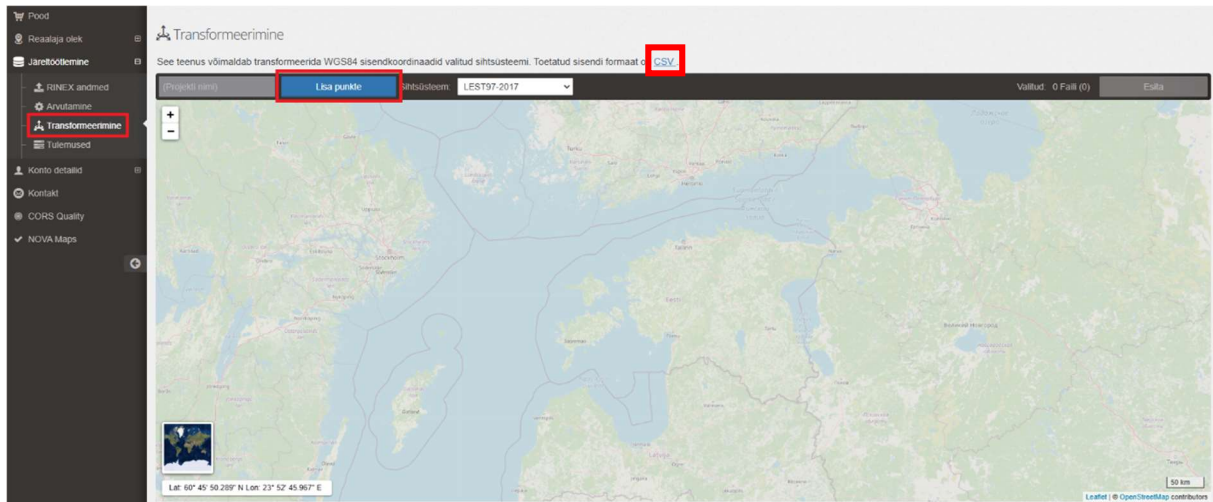
Projekt: [Test](#) Kasutage virtuaalset RINEX-i: Ei

[Näita faili üksikasju](#) [Täielik aruanne](#)

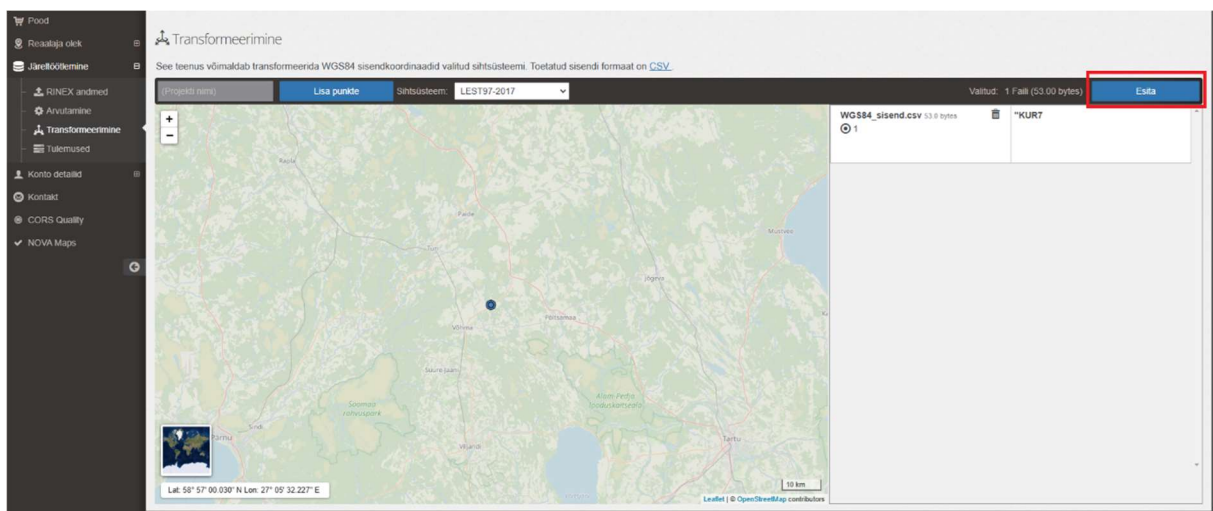
Punkt	Vaatus aeg	Kohalik võrk (E,N,A,H) LEST97-2017	Kohalik geodeetiline asukoht	WGS84 geodeetiline	Kvaliteet	Näita aruanne
Test	2024-12-12 09:14:42, 119 min	634657 2996 m ± 0.0011 m 6563299 9299 m ± 0.0007 m 52.0293 m	59° 21' 58.7590" N ± 0.0011 m 26° 22' 06.7800" E ± 0.0007 m 69.0525 m ± 0.0028 m	59° 21' 58.7590" N ± 0.0011 m 26° 22' 06.7800" E ± 0.0007 m 69.0524 m ± 0.0028 m	0.0031 m Phase Fixed	Näita aruanne

# Transformation

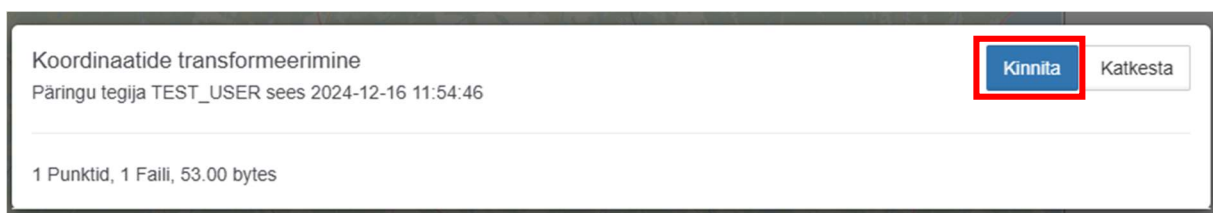
- 1) Choose **Transformation** under **Post Processing**.
- 2) The **Add Points** option allows you to upload XYZ geocentric coordinates in the WGS84 coordinate system. The input file must be in CSV format. More detailed instructions about the input file can be seen under the **CSV** option.



- 3) Select **Submit**.



- 4) Select **Confirm**.



- 5) User is taken to the **Results** page. The results can be downloaded in CSV format using the **Export** option.

The screenshot shows the 'Tulemused' (Results) page in a web application. The left sidebar contains navigation options: 'Pood', 'Reasaja olek', 'Järeldõkkimine', 'RINEX andmed', 'Arvustamine', 'Transformatsioonid', 'Tulemused', 'Konto detailid', 'Kontakt', 'CORS Quality', and 'NOVA Maps'. The main content area has a header with 'Tulemused' and a description: 'Sellel lehel kuvatakse kategooriate kaupa kõik SBC järeldõkkusteenusega seotud tulemused.' Below this is a tabbed interface with four tabs: 'RINEX andmed', 'Virtuaalse RINEX-i andmed', 'Koordinaatide arvutus', and 'Koordinaatide transformeerimine'. The 'Koordinaatide transformeerimine' tab is active. It shows a summary: '3. Toodeid 2024-12-16 11:55:59', '1 Fail, 1 Punktid', and 'Sihtsüsteem: LE9797-2017'. An 'Eksports' button is highlighted with a red box. Below the summary is a table with the following data:

Faili nimi	Punkti nimi	Kohaik vörk (E,N,H)	Transformeeritud koordinaadid		Juhuslik	
			Kohaik tasapinnaliste ristkoordinaatide asukoht			
W0584_silend.csv	*0UR7	587377.9271 m 6506085.0770 m 61.8825 m	2995073.3799 m 1440090.4139 m 5425765.8378 m		NO	