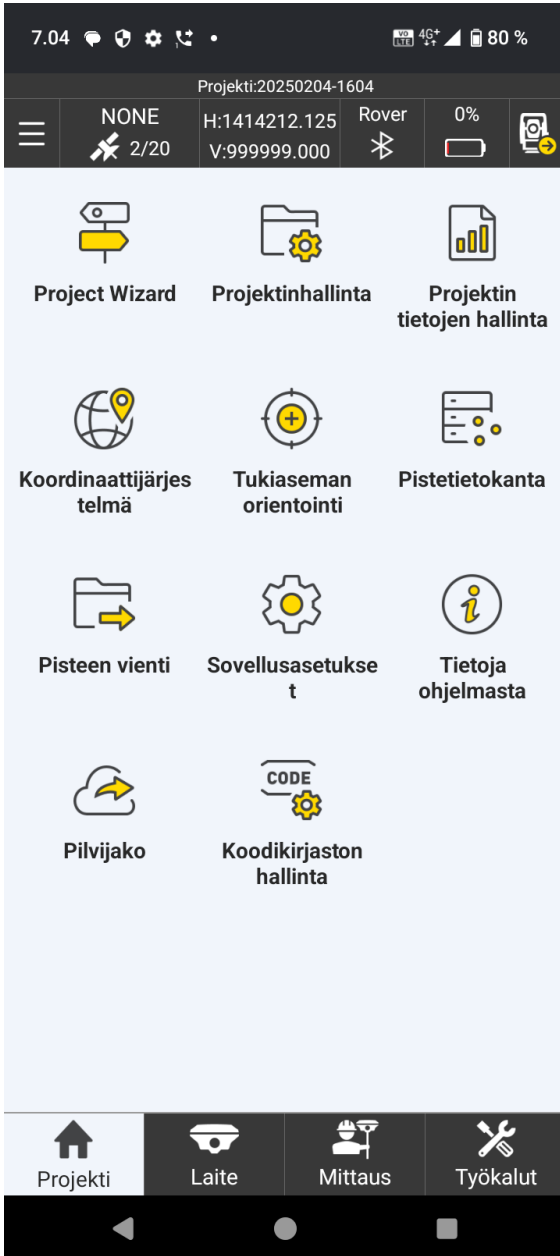
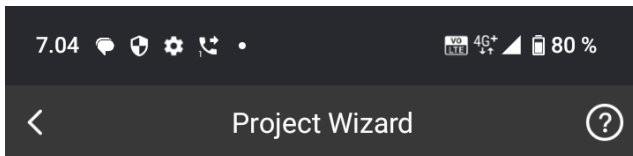


INSTRUCTIONS FOR GETTING STARTED WITH SOUTH'S RTK GNSS RECEIVERS IN THE KARERAN CORRECTION NETWORK



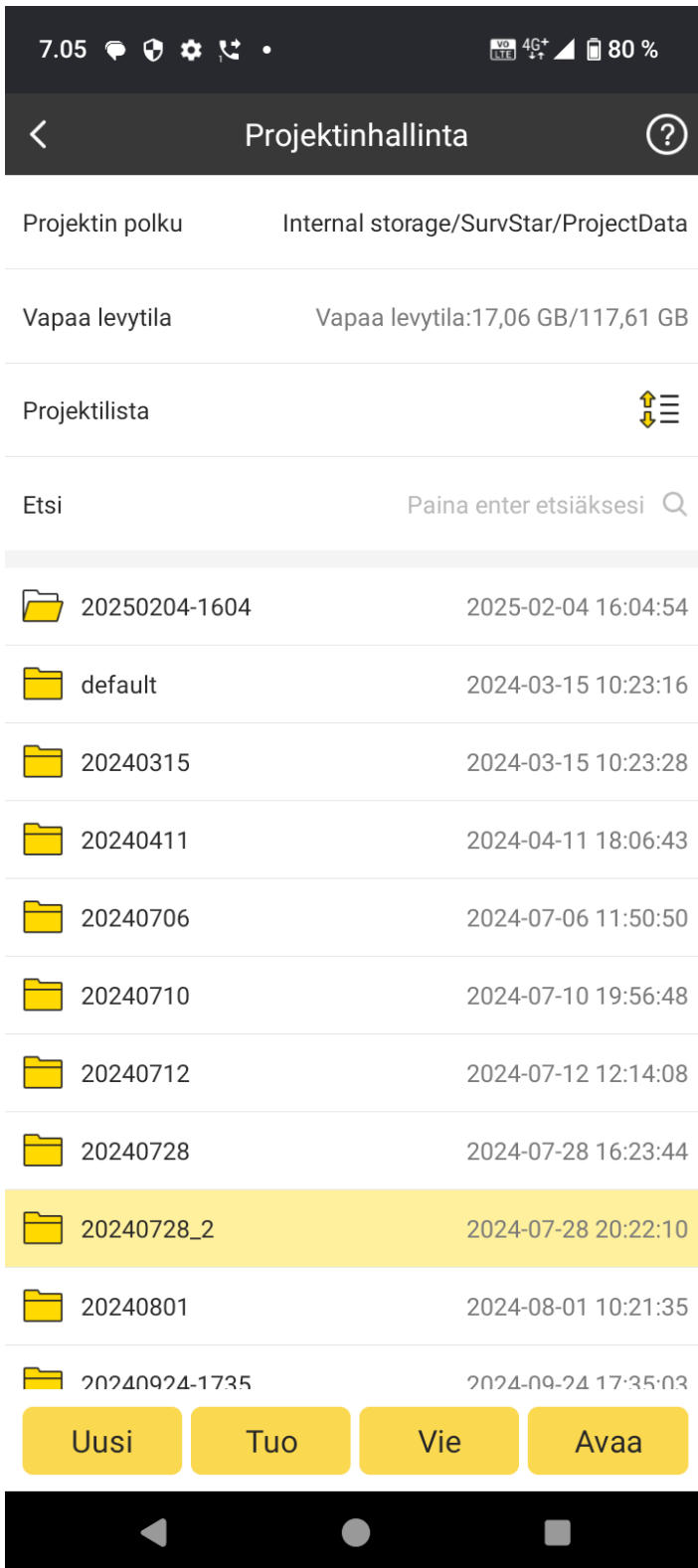
Start with the Project Wizard .

This guide has been prepared using the latest Survstar , where the language selected is Finnish. However, not all terms have been translated into Finnish.



Select a project. Press Options to edit project information.





Click "New" at the bottom (if you don't want to open an old project).

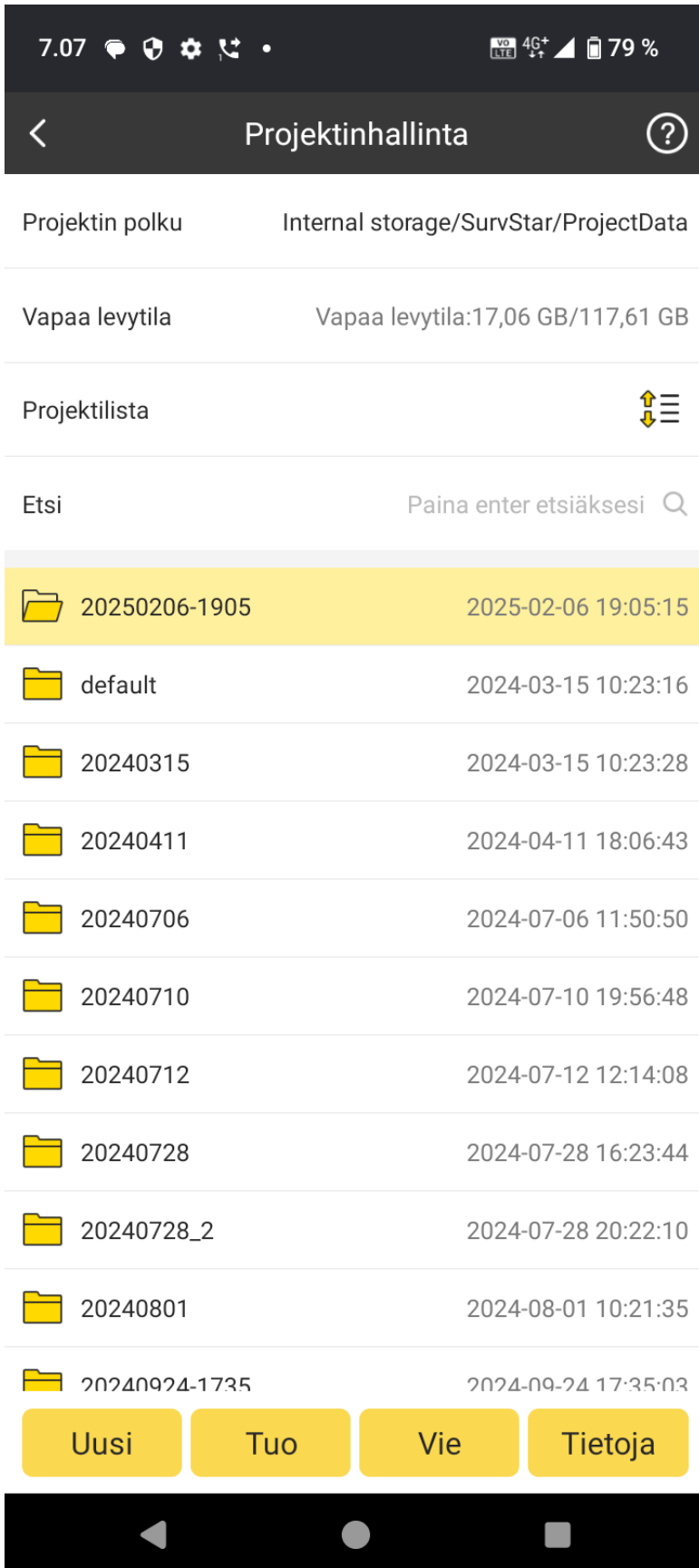
7.06 4G+ 79%

Projektiin tiedot

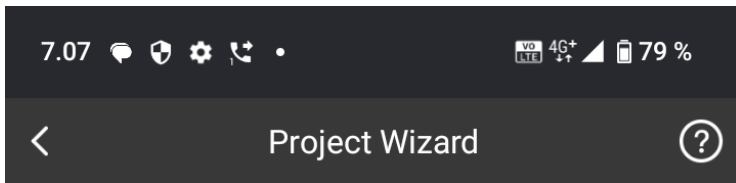
Projektin nimi	20250206-1905
Koordinaattijärjestelmä	Edellisen projektin muuttujat >
Survey Stake Setting	Previous Project Parameters >
Operaattori	Ari
Laite	G4
Muistiinpanot	Testi
Päivämäärä	2025-02-06 19:05:15
Vapaa levytila	17,06 GB/117,61 GB

OK Jaa

Give the project a name. The default is the date and time. You can enter a free-form name for it. The coordinate system is asked here and you can leave it as “Previous project variables” because the coordinate system can be checked and changed in the following steps. You can also enter the user (operator) name and the device name/type. You can enter any text you want in the notes.

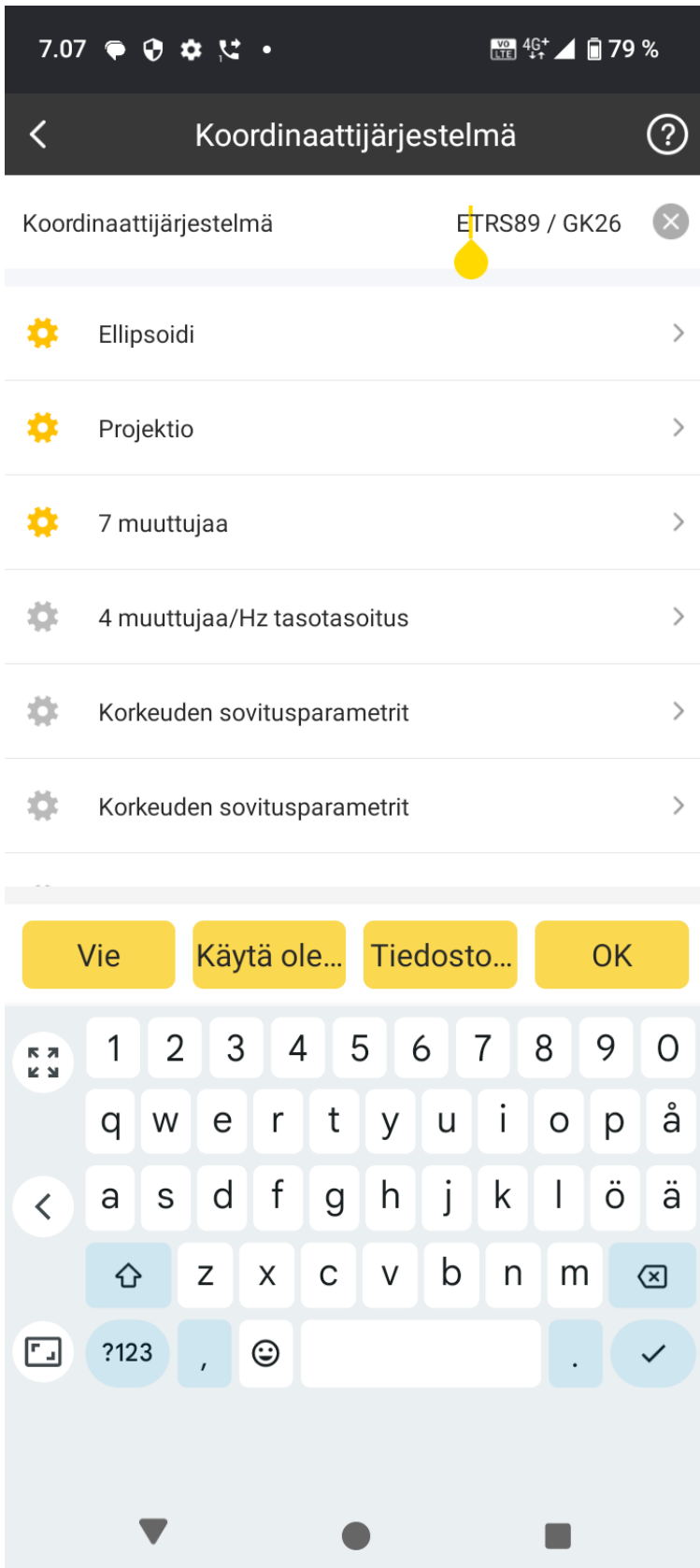


The newly created project will appear in the project list, where projects can be deployed. The newly created project is selected in the image.



The next thing to choose is the coordinate system. Press "Options".





If the selected coordinate system is not the one you want, you can change it (top row). Press "Use default" and select "Preset" from there

7.08 4G+ 79 %

< Esiasetettu ?

Maa FINLAND >

Etsi Syötä

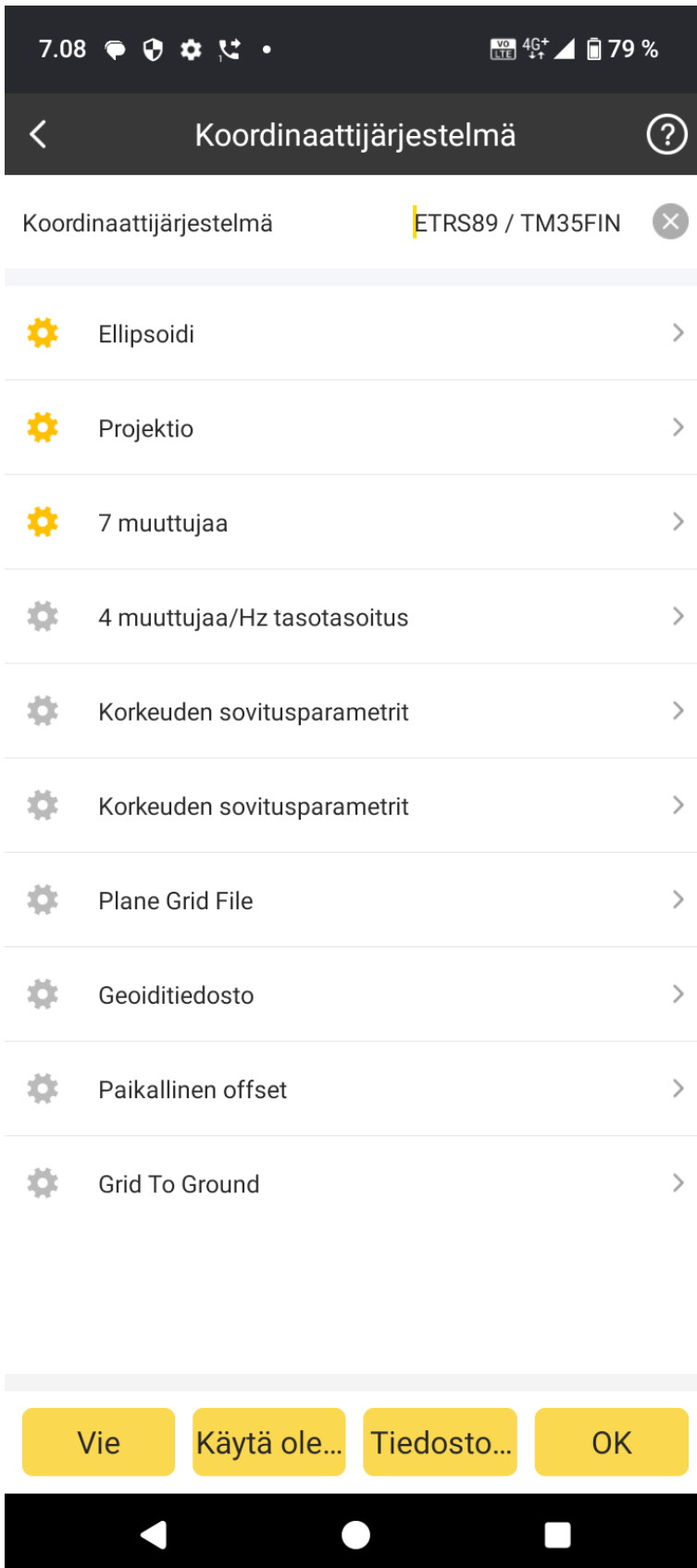
No.	Koordinaattijärjestelmä	Ellipsoidi
15	ETRS89 / GK24	GRS80
16	ETRS89 / GK25	GRS80
17	ETRS89 / GK26	GRS80
18	ETRS89 / GK27	GRS80
19	ETRS89 / GK28	GRS80
20	ETRS89 / GK29	GRS80
21	ETRS89 / GK30	GRS80
22	ETRS89 / GK31	GRS80
23	ETRS89 / TM35FIN	GRS80

OK

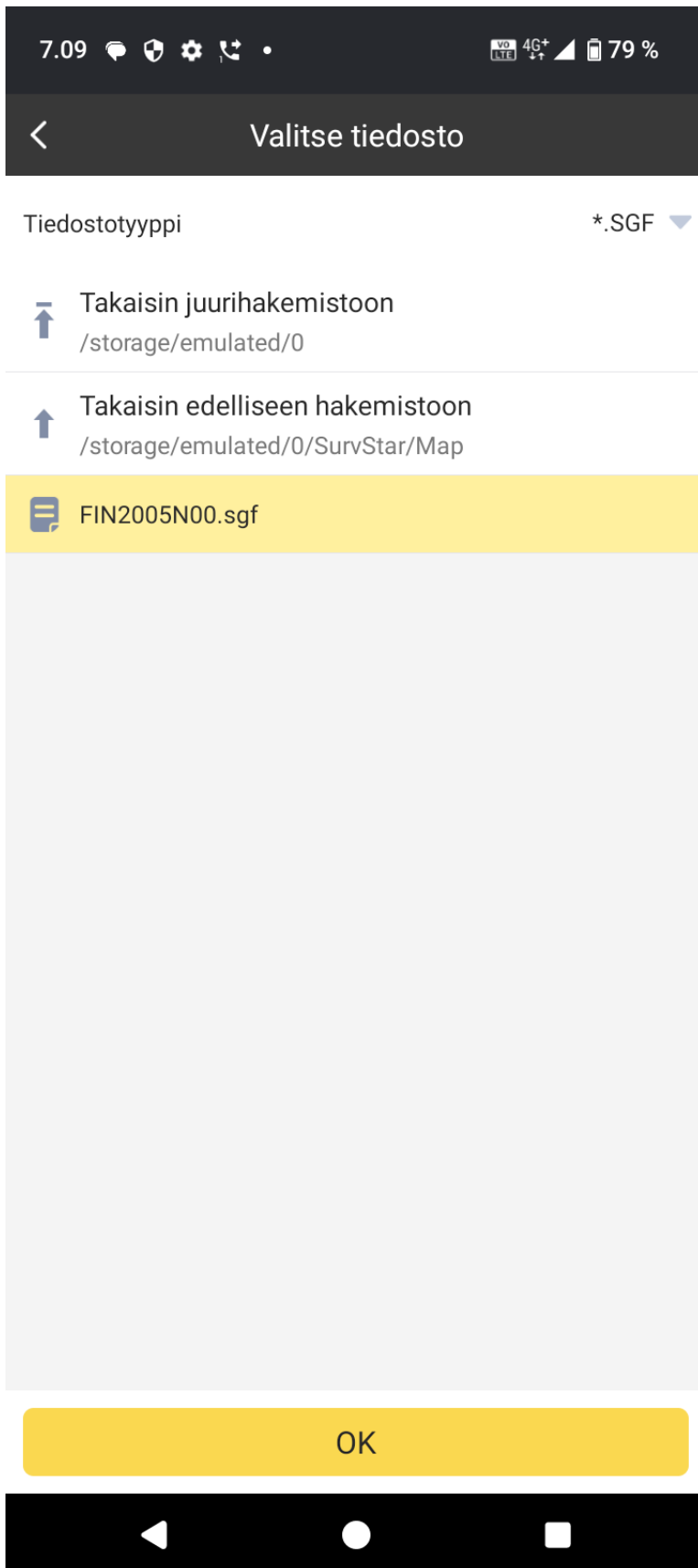
Tietoja



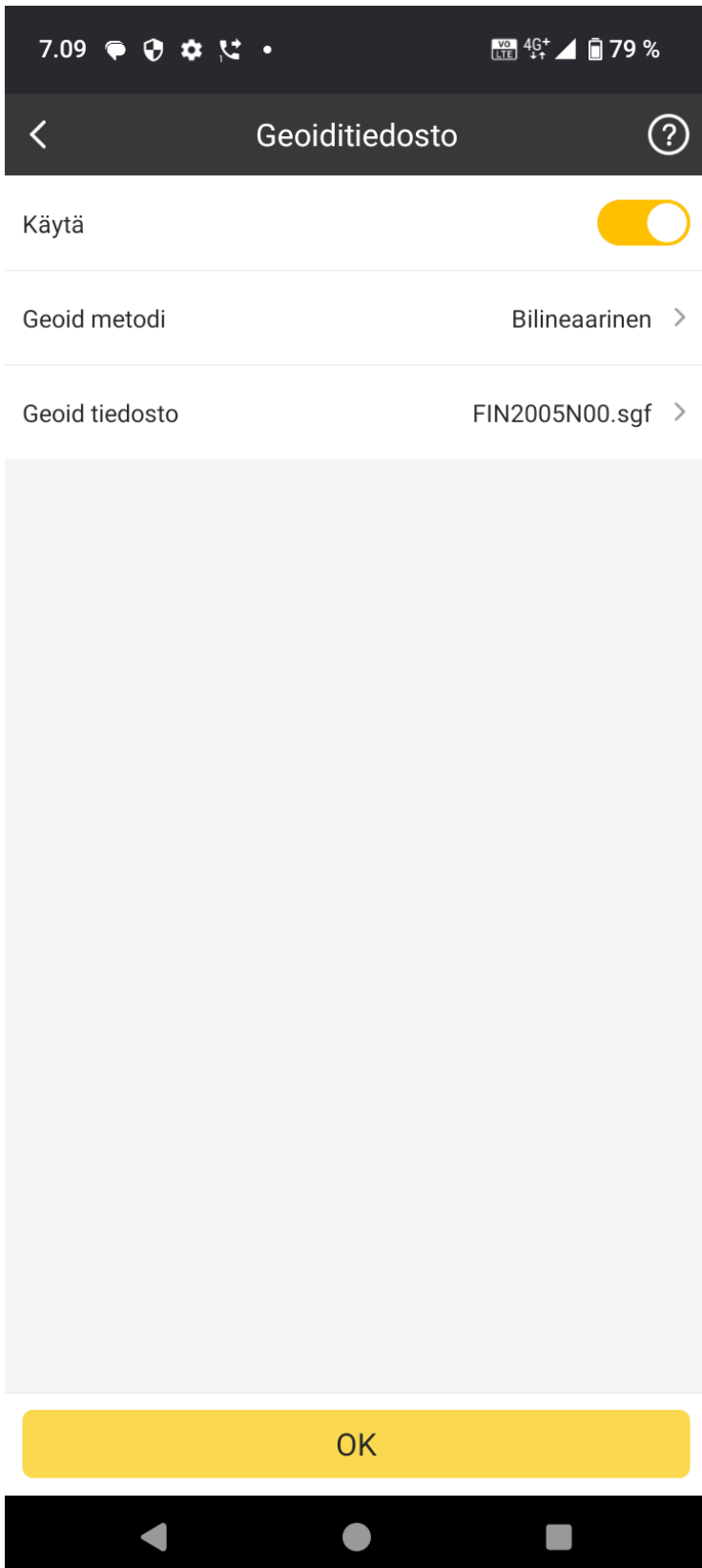
This will take you to the preset coordinate systems. Set Country -> Finland and select the desired system, e.g. ETRS89/TM35FIN. Press OK.



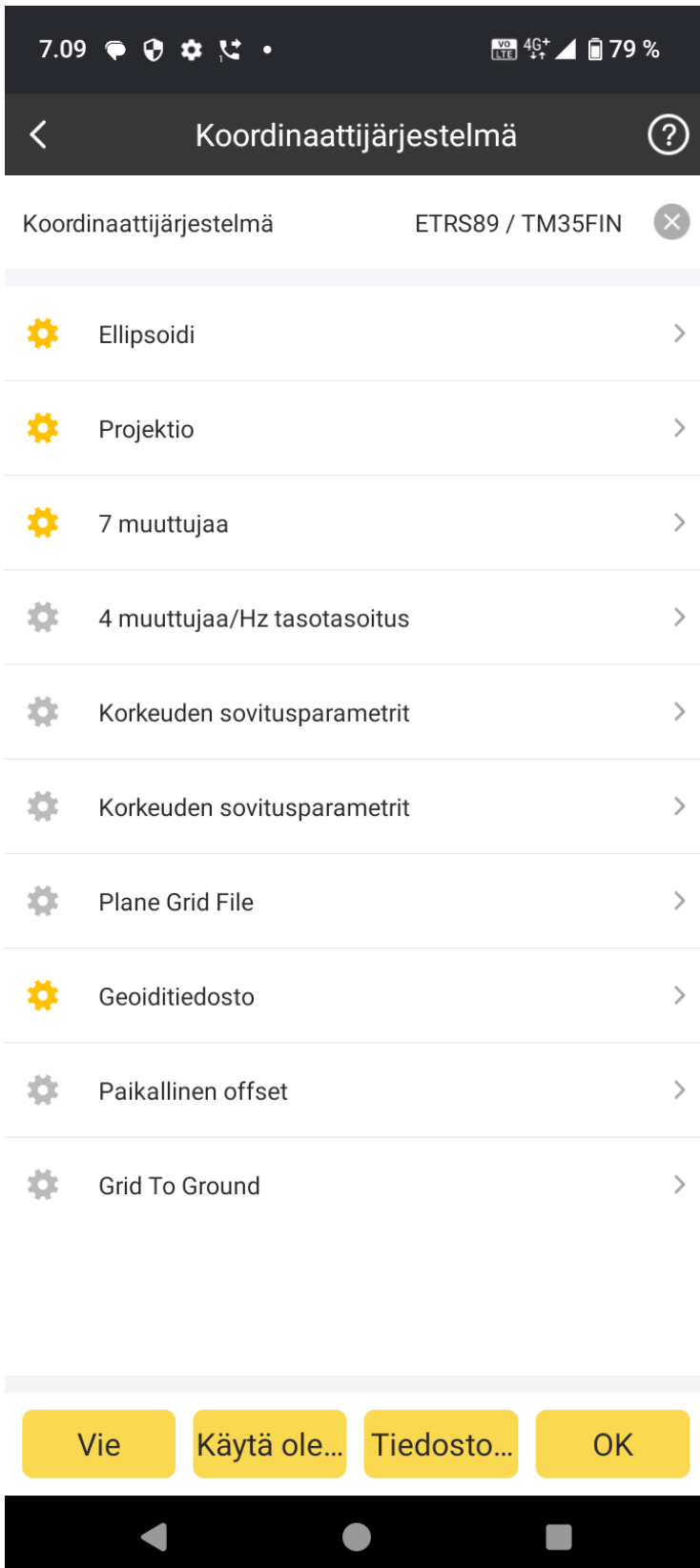
Now you will be taken to the coordinate system page. There is no need to change anything here except the Geoid file. Go to its selection.



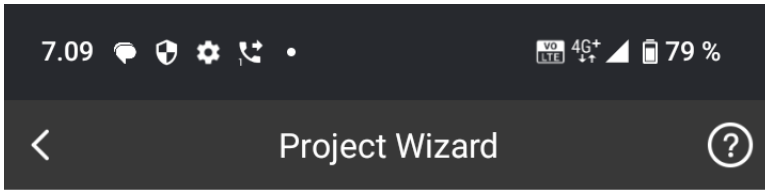
Here you need to search for and select a file with the extension sgf . The most common in Finland is currently FIN2005N00. This file must therefore be stored somewhere inside the phone / controller. The simplest way is probably to store them in a subdirectory of Survstar . Once it is selected, press OK.



From here you can go to the previous directory by pressing OK.

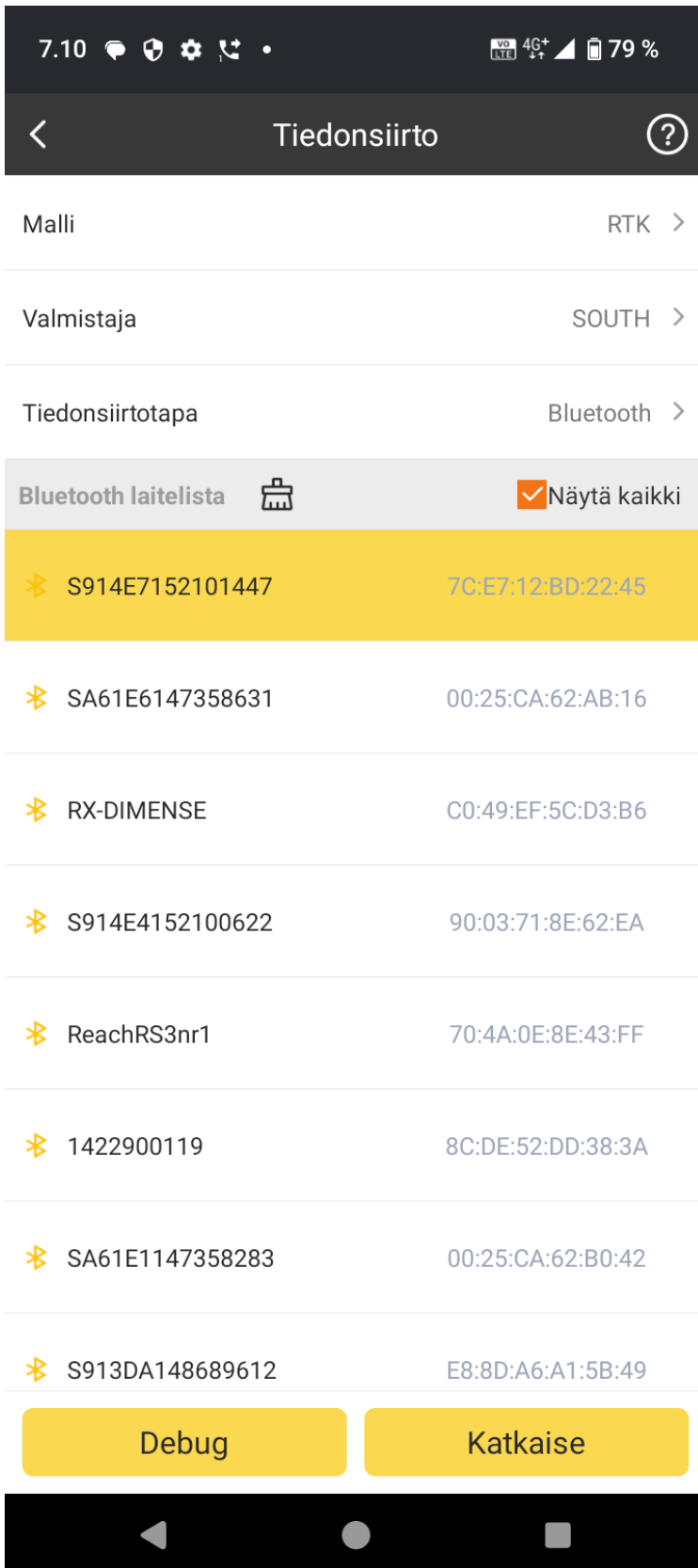


Likewise, from this page (if everything is correct), press OK.

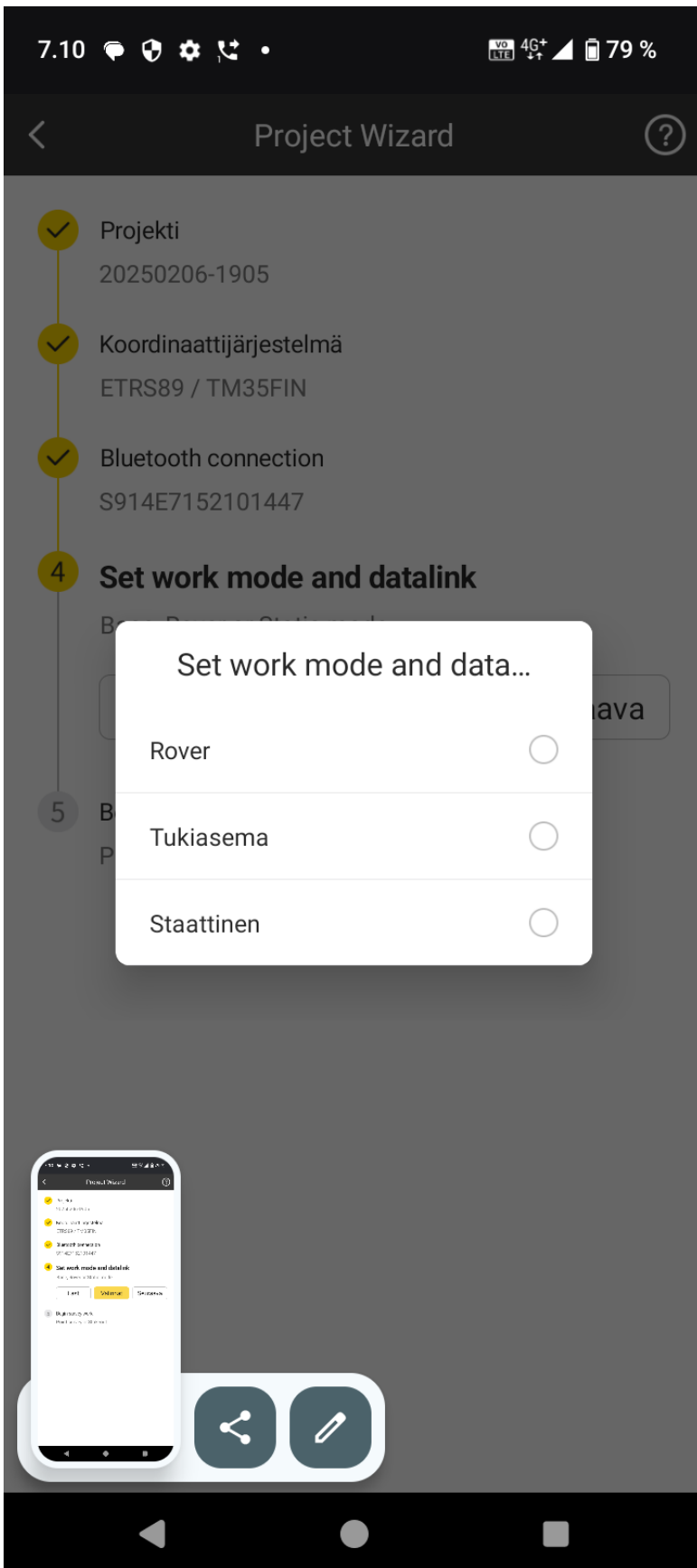


Next comes “Bluetooth Connection”. Notice that the Project Wizard page now shows the selected project name and coordinate system. Press “Options”.

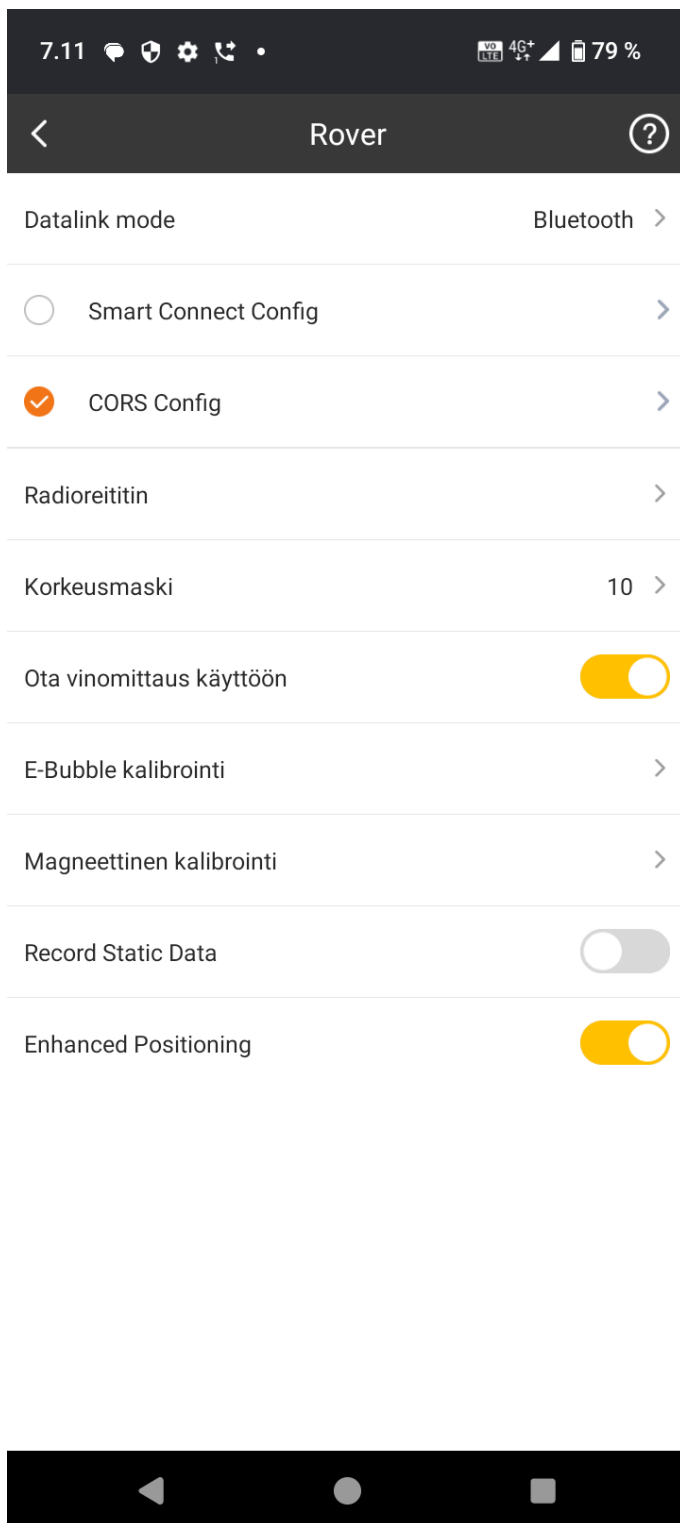




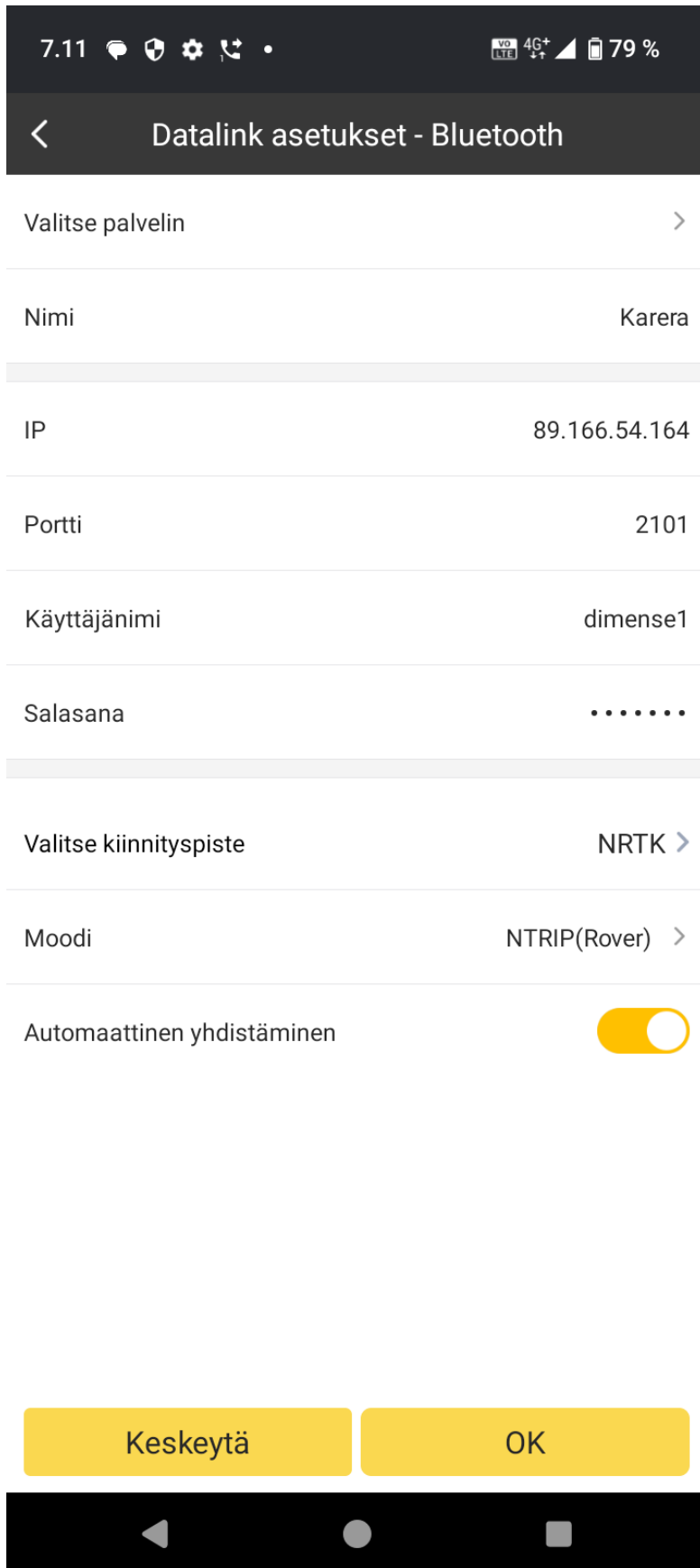
On this page you can see all the devices that this phone/controller is Bluetooth-paired with. Look at the bottom of the device in question for its serial number and, for example, the last 3 letters there and select the device from the list. Press the device number and connect the device. In the picture at the bottom right it says “Disconnect”, because the device is connected here. If the device is not connected, it says “Connect”.



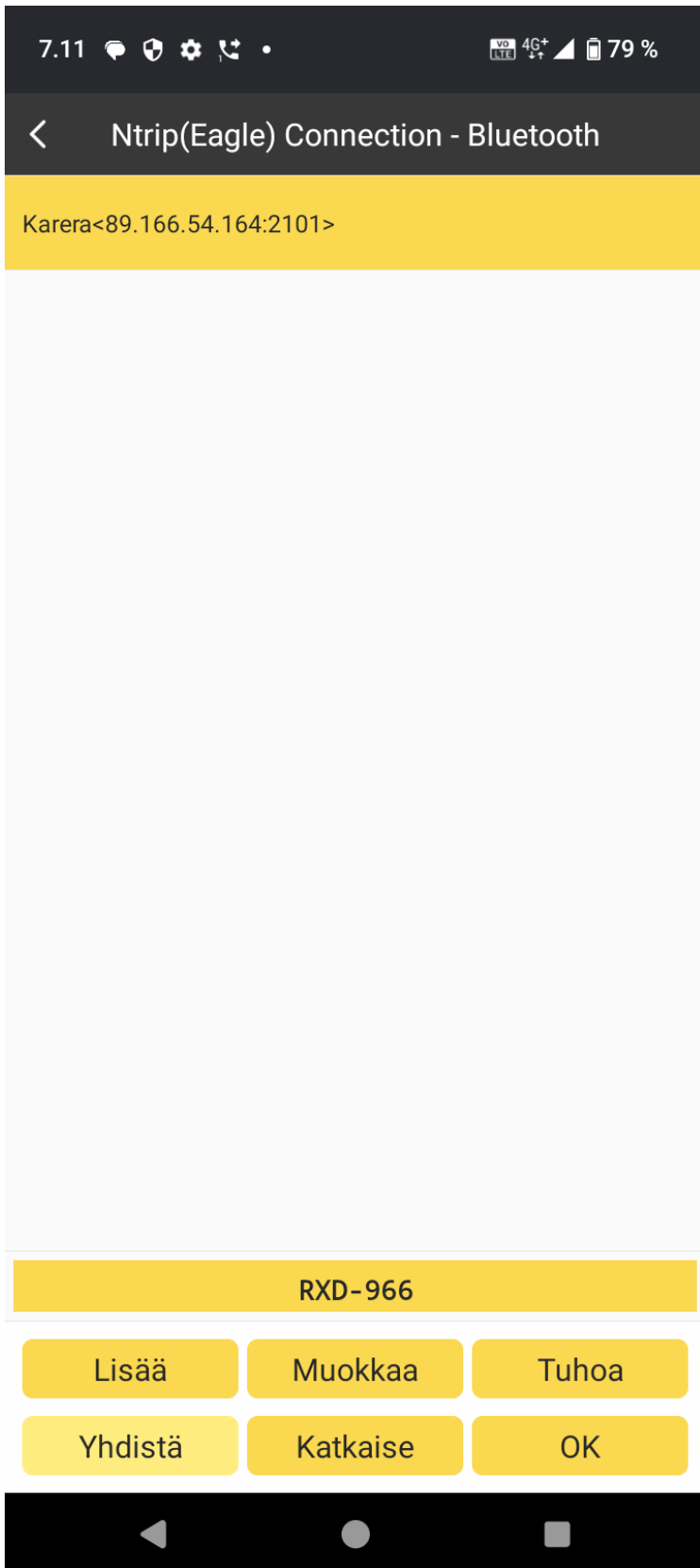
Next, select "work" mode and data". From there, select "Rover" (you are probably measuring and not building a base station).



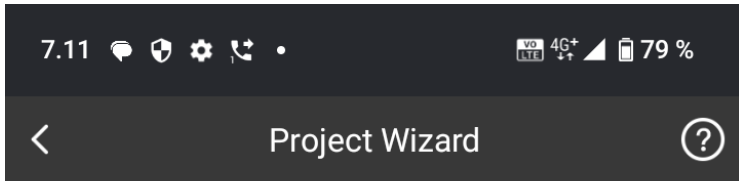
the Rover page, the important ones are CORS Config , Skew measurement (i.e. tilt correction) and Enhanced Positioning (not required, but enable if you want). CORS Config means the settings for the RTK correction network (e.g. Karera). Click on it.



Enter the settings of the repair service provider here. The settings in the image apply to the Karera network. The password is of course only known to the user. Before starting the measurement, you must select a mount point (mount point) from a list that comes from the service provider.



On this page you can connect to the selected repair service. In the picture, the connection has already been made, which can be seen from the fact that the RXD-966 bar in the bottom row is moving and the code is changing.



Now you are ready to start the measurement (point measurement). Press it.

- ✓ **Projekti**
20250206-1905
- ✓ **Koordinaattijärjestelmä**
ETRS89 / TM35FIN
- ✓ **Bluetooth connection**
S914E7152101447
- ✓ **Set work mode and datalink**
Rover
- 5 Begin survey work**
Point survey or Stakeout



Pisteen määrittäminen

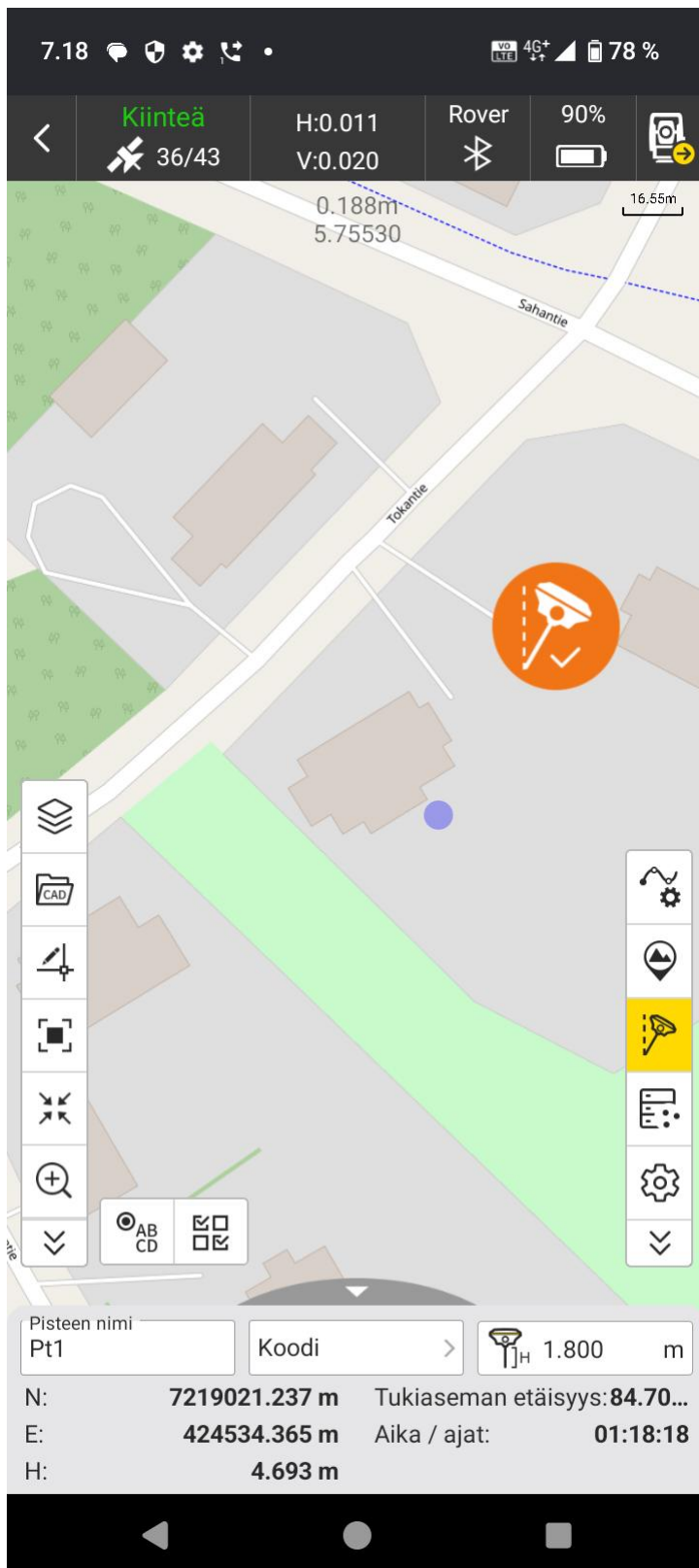


Pisteen merkintä



Suoran merkintä





The measurement page looks like this. The text “Fixed” or FIX at the top means that you are in the so-called RTK FIX or measurement mode. The number of satellites is shown below it, i.e. in the case of the image, 43 satellites are visible, of which 36 are in use . The height mask on the Rover page determines the limit angle above the horizon, at which satellites with larger angles are taken into account. The best situation is when the satellites are directly above the measurement. The yellow square on the right side represents the tilt correction. When you press it for the first time, you must then swing the measuring rod back and forth, e.g. at angles of +/- 15 degrees in the NS and EW angles (a few swings and thus a turn of 90 degrees and corresponding swings at this angle). When the calibration is done in this way, the round measuring ball (orange in the image) shows that the calibration is OK. Go to the measurement location and press the orange ball.

7.18 4G+ 78 %

< Maastopiste



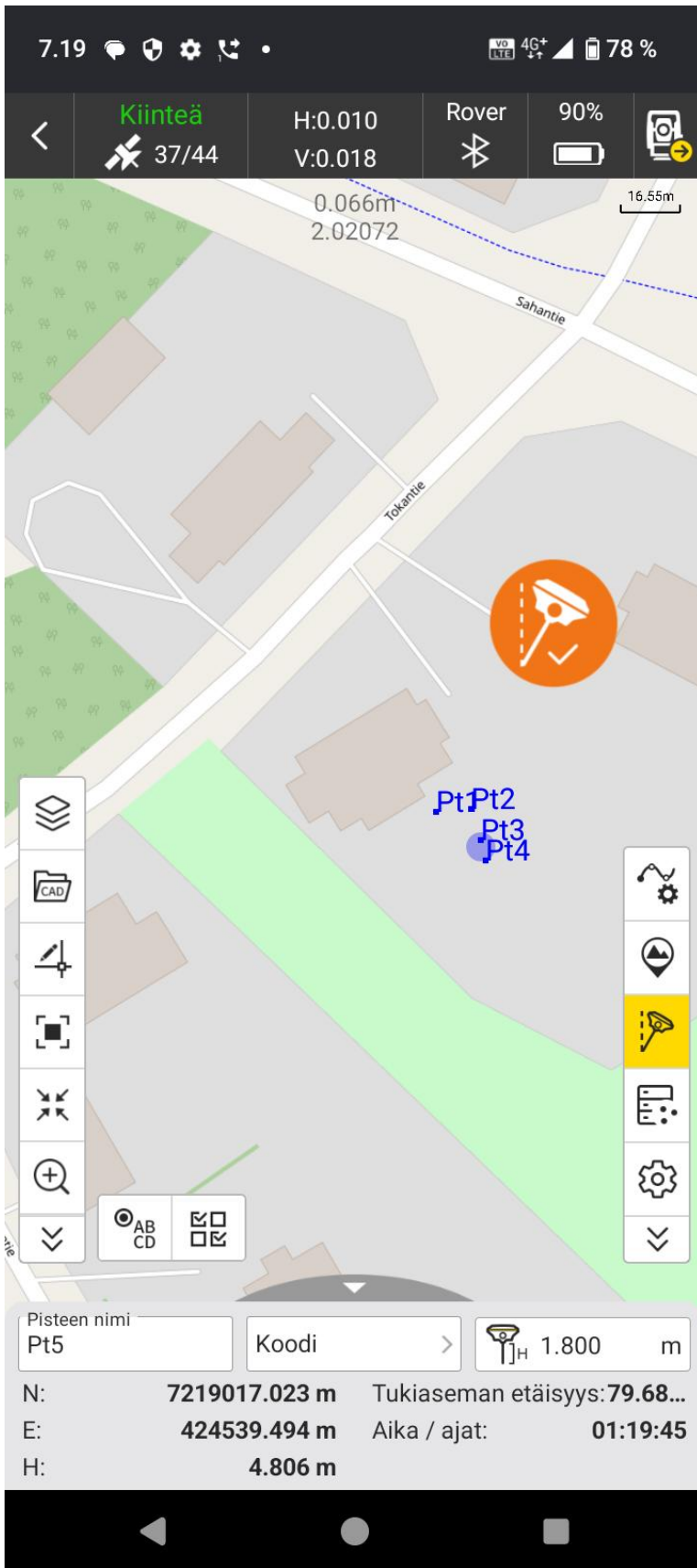
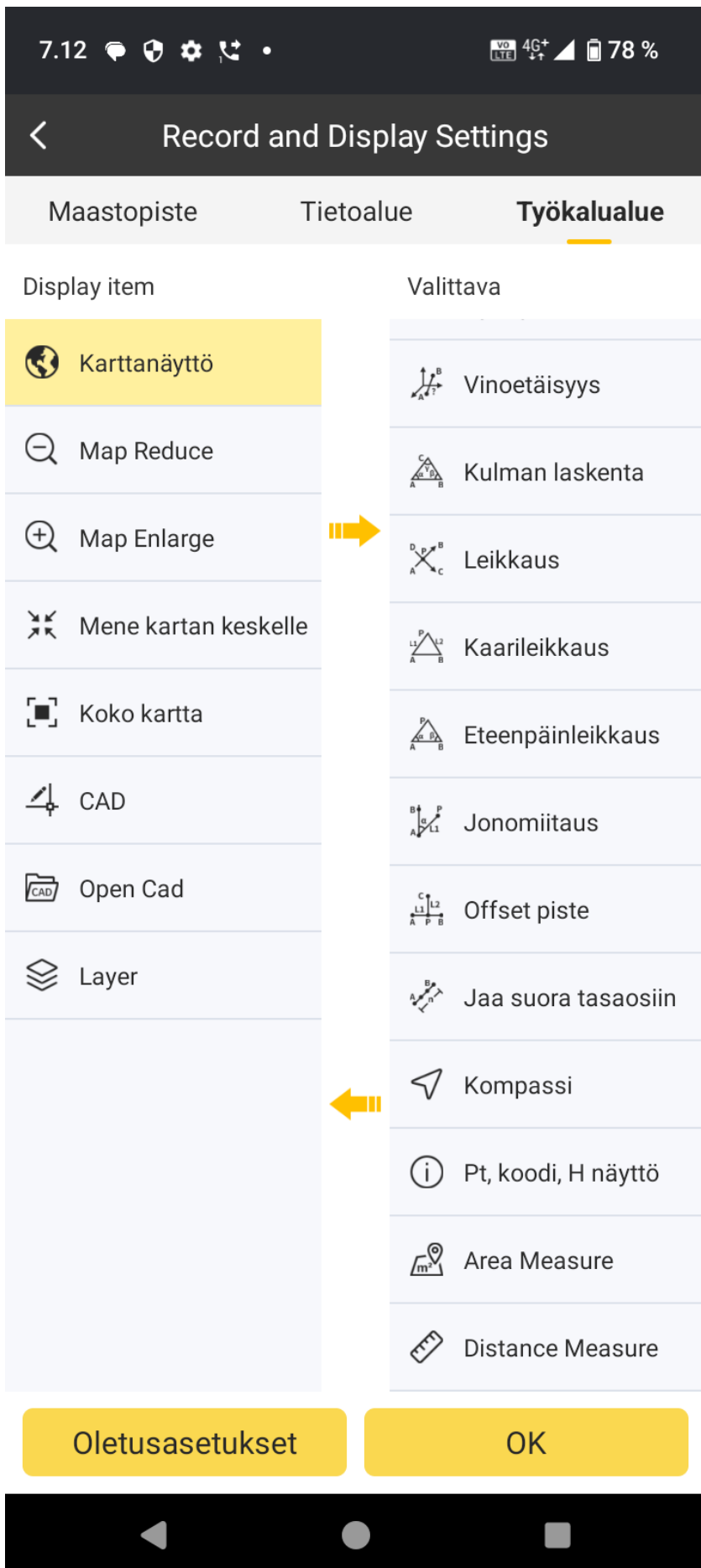
Pisteen nimi	Pt1
Koodi	Syötä 
Antennin korkeus	1.800 m
Antennikorkeuden tyyppi 	Sauvakorkeus >
Record	<1/1>Kerääminen valmis
Ratkaisu	<36/43>Kiinteä
N	7219021.233 m
E	424534.346 m
H	4.699 m
HRMS	0.011
VRMS	0.021
Ikä	1
Etäisyys viimeiseen pisteeseen	7231493.412

Photo Mark OK

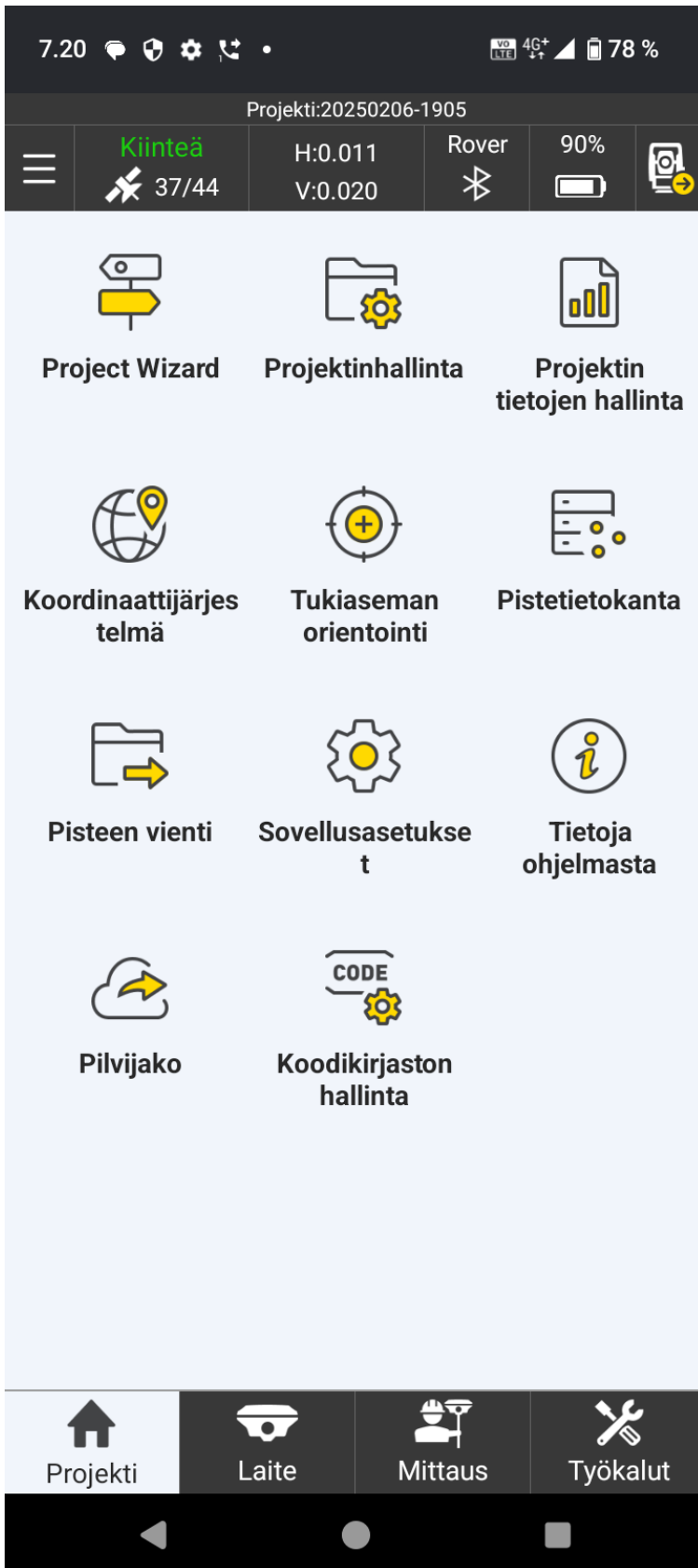
When you press the measurement button, the device takes a measurement and jumps to a verification page like this. Here you can, for example, enter a code for the device (which describes different measurement items). When you accept this, press OK.



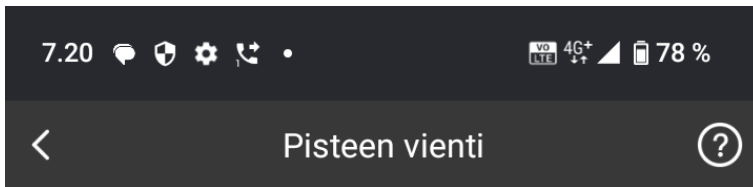
Measure more points as above.



On the right side of the measurement page there is a picture of a “gear”. When you click on it, you will get to the measurement settings. There you can, among other things, define which symbols are selected on the measurement page and see what the symbols mean.



Once you have measured enough points, you can save the points from the Project page (Export points).



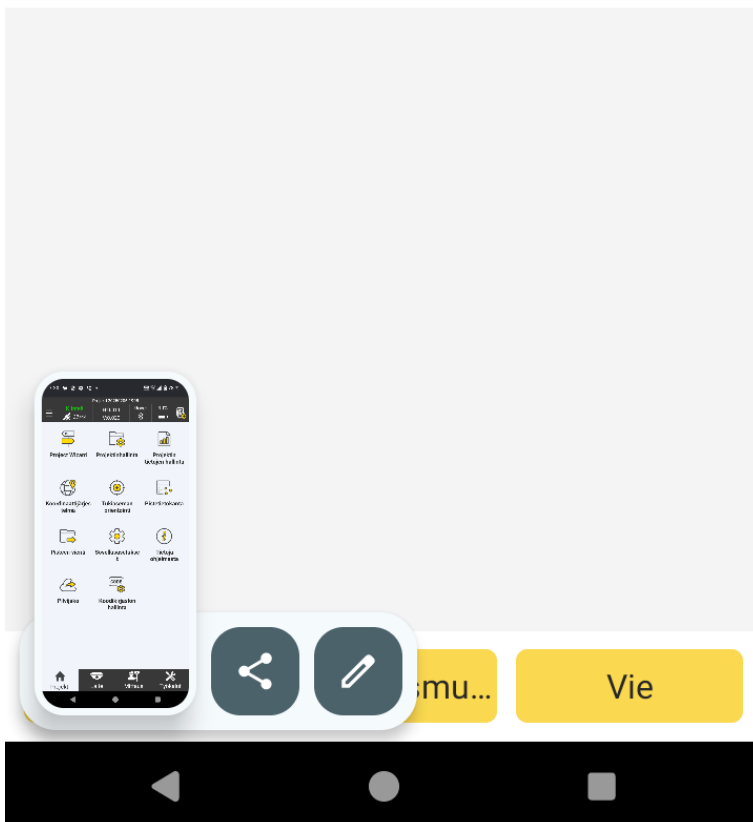
Here you can also see the saving format. Press "Export".

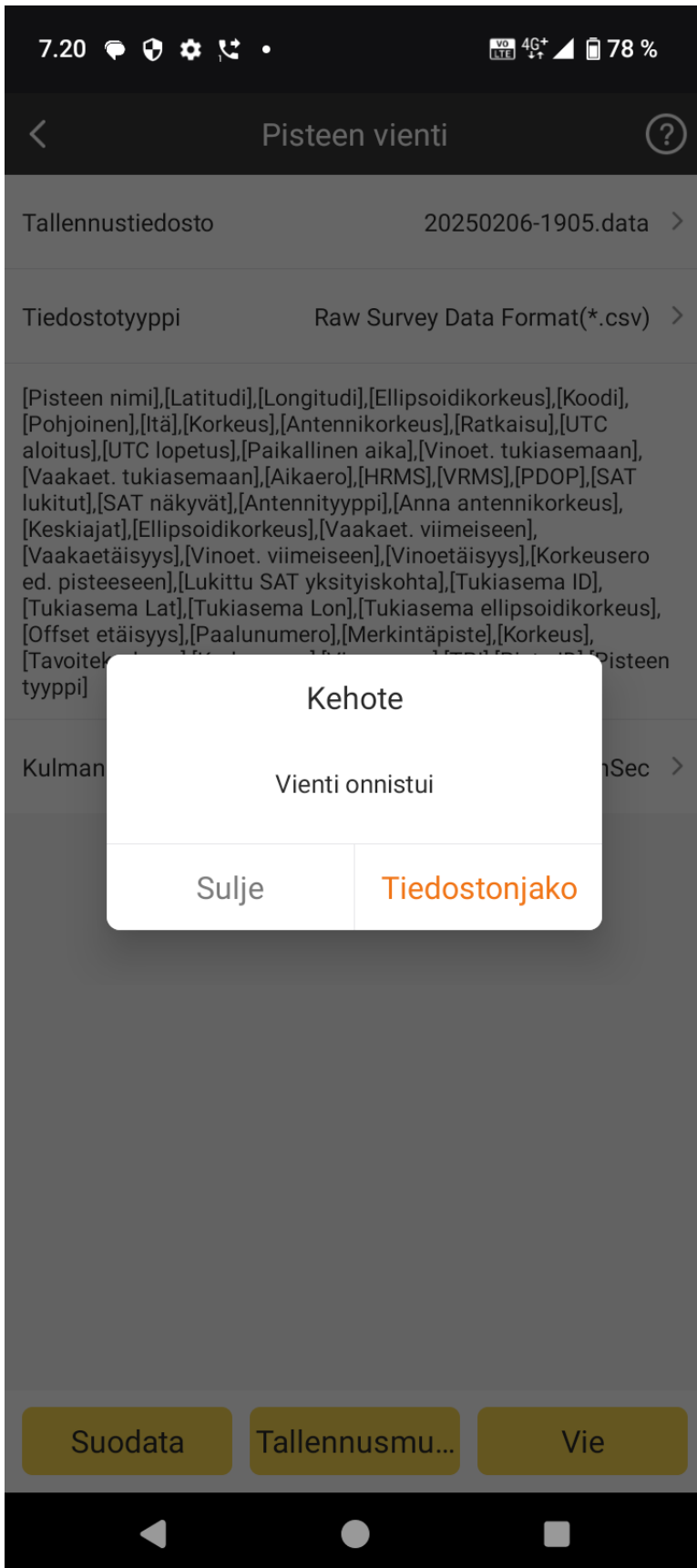
Tallennustiedosto 20250206-1905.data >

Tiedostotyyppi Raw Survey Data Format(*.csv) >

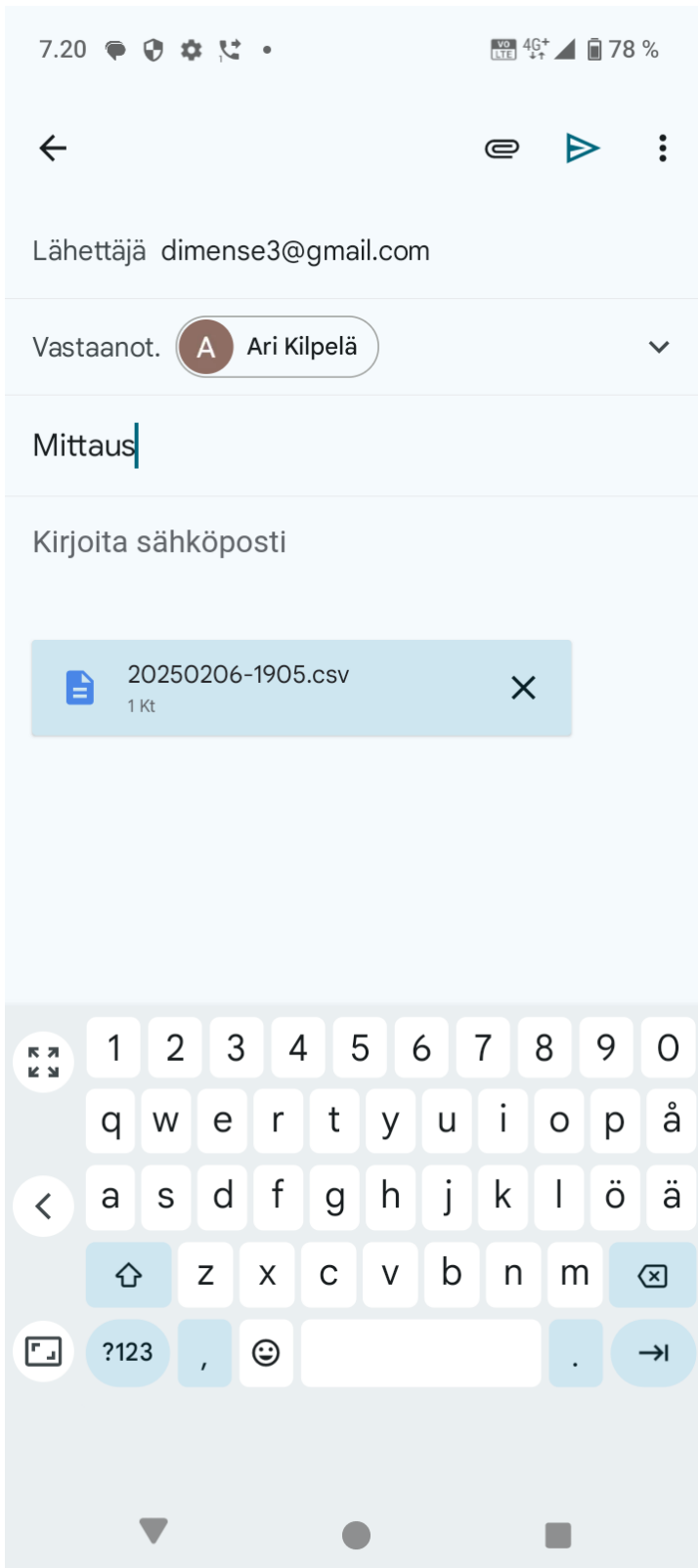
[Pisteen nimi],[Latitudi],[Longitudi],[Ellipsoidikorkeus],[Koodi],[Pohjoinen],[Itä],[Korkeus],[Antennikorkeus],[Ratkaisu],[UTC aloitus],[UTC lopetus],[Paikallinen aika],[Vinoet. tukiasemaan],[Vaakaet. tukiasemaan],[Aikaero],[HRMS],[VRMS],[PDOP],[SAT lukitut],[SAT näkyvät],[Antennityyppi],[Anna antennikorkeus],[Keskiajat],[Ellipsoidikorkeus],[Vaakaet. viimeiseen],[Vaakaetäisyys],[Vinoet. viimeiseen],[Vinoetäisyys],[Korkeusero ed. pisteeseen],[Lukittu SAT yksityiskohta],[Tukiasema ID],[Tukiasema Lat],[Tukiasema Lon],[Tukiasema ellipsoidikorkeus],[Offset etäisyys],[Paalunumero],[Merkintäpiste],[Korkeus],[Tavoitekorkeus],[Korkeusero],[Vinosauva],[TPI],[Piste ID],[Pisteen tyyppi]

Kulman tallennusmuoto Deg.MinSec >





Now you will see the message "Export successful" and then you will have the option to Share Files.



When you select File Sharing, you can, for example, send the measurement data by email to the desired address. This requires that you have email enabled on the phone / Controller you are using to take measurements. One option is to log in to your Google account in the Android settings.