



TcpGPS

Surveying and Setting Out using GNSS Receivers



aplitop

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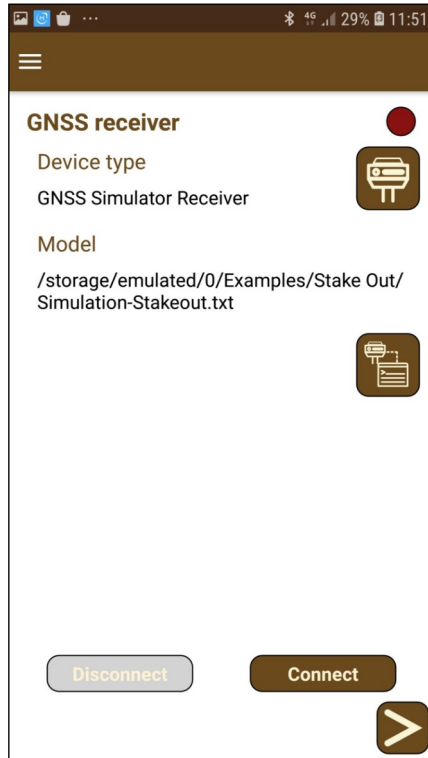
Configuration

System Requirements

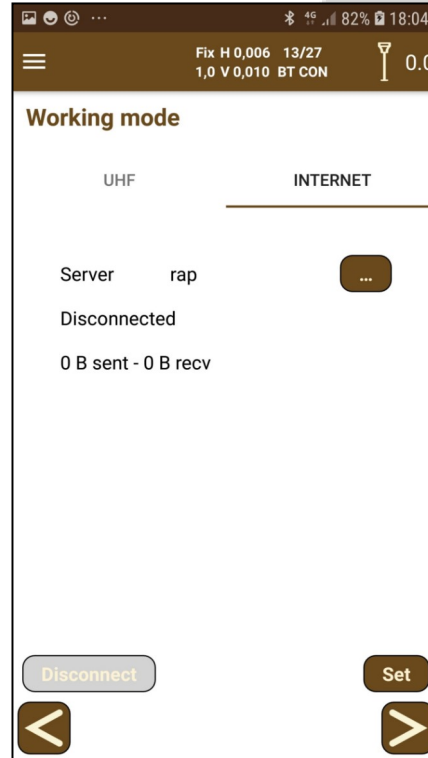
Requirement	Minimum	Recommended
Operating System	Android 6.0	Latest
RAM memory	2 Gb	3 Gb or more
Screen size	5"	7"
Sensors		Magnetometer Accelerometer
Connectivity	GPS Bluetooth Internet	
GPU	Mali-T880 MP12 Adreno 530	High performance

Receiver Control

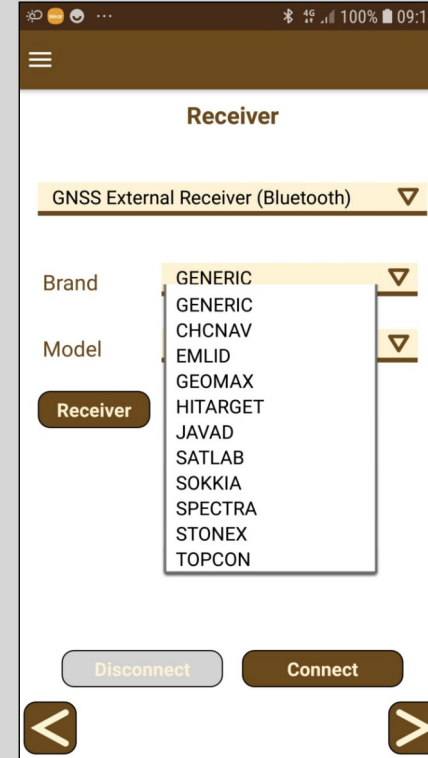
Connection



Sources



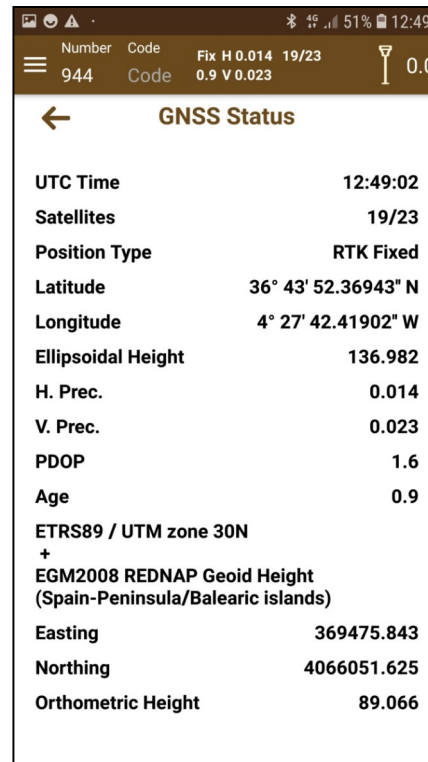
NTRIP



Connection

Receiver Control

Position and Satellites Constellations

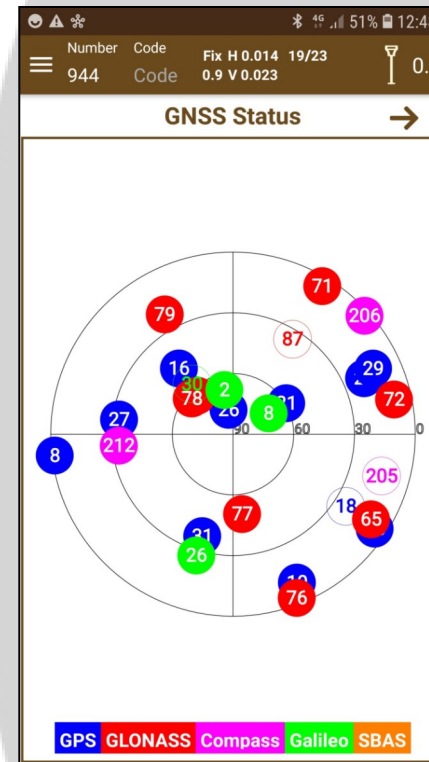


Number Code Fix H 0.014 19/23
944 Code 0.9 V 0.023 0.0

← GNSS Status

UTC Time	12:49:02
Satellites	19/23
Position Type	RTK Fixed
Latitude	36° 43' 52.36943" N
Longitude	4° 27' 42.41902" W
Ellipsoidal Height	136.982
H. Prec.	0.014
V. Prec.	0.023
PDOP	1.6
Age	0.9
ETRS89 / UTM zone 30N + EGM2008 REDNAP Geoid Height (Spain-Peninsula/Balearic islands)	
Easting	369475.843
Northing	4066051.625
Orthometric Height	89.066

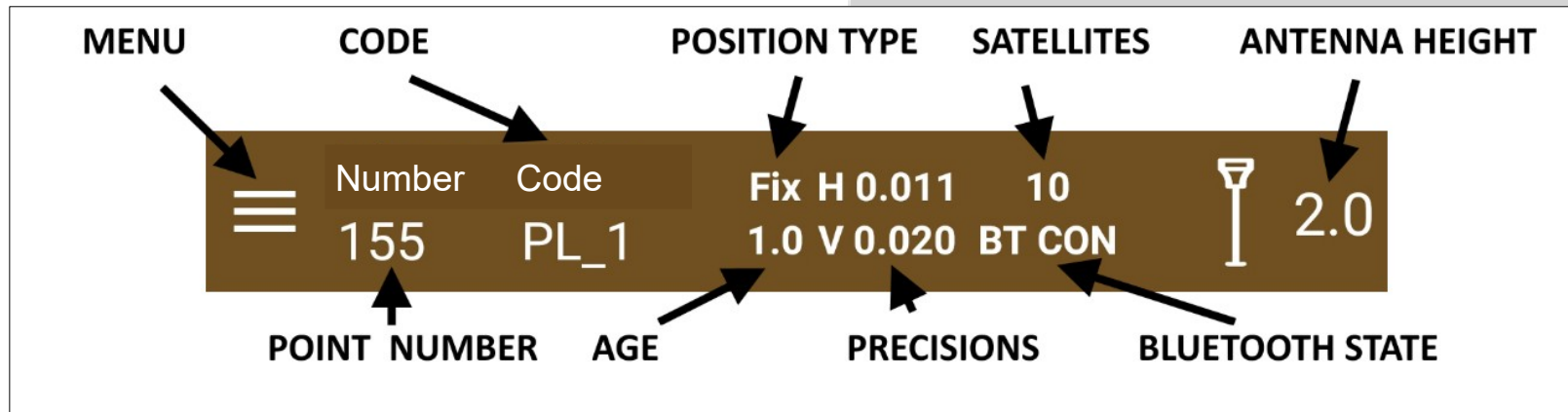
Position



Constellations

Receiver Control

Status Bar



Receiver Control

Receiver Configuration

Fix H 0.014 19/23
0.9 V 0.023 BT CON

Working mode

Coordinates Type Geographic Projected

Number

Antenna Height (m)

Meas. Type

Northing

Easting

Height

GPS Point List

Next

Base

Fix H 0,006 13/27
1,0 V 0,010 BT CON

Working mode

UHF INTERNET

Server rap

Disconnected

0 B sent - 0 B recv

Disconnect Set

Rover

Fix H 0.014 19/23
0.9 V 0.023 BT CON

Working mode

Static

Point ID

Antenna Height (m)

Meas. Type

Interval

Time

Format:
 HCN Rinex

Start Stop

Static

Project Management

Project Properties

Fix H 0.014 19/23
0.9 V 0.023 BT CON

Name _____

Author _____

CRS

ETRS89 - UTM zone 30N

ETRS89 / UTM zone 30N
+ EGM2008 REDNAP Geoid Height
(Spain-Peninsula/Balearic islands)

Remarks _____

New project

Fix H 0.014 19/23
0.9 V 0.023 BT CON

Name
My Coordinate System

Continents
Africa

Countries
Algeria

Coordinate system
30491 - Voirol 1875 / Nord Algerie
(ancienne)

Datum shift
1294 - Voirol 1875 to WGS 84 (1)

Global Coordinate System

Project Management

Local Coordinate Systems

Number 802

Source Coordinates

X 369469.3842058698 **GPS**

Y 4066057.6102984194

Z 89.06290543190934

Target Coordinates

X 0.000 **GPS**

Y 0.000

Z 0.000

Use in calculation

Horizontal Vertical

CANCEL **INSERT**

New control point

Fix H 0.014 19/23
0.9 V 0.023

← **Local System**

Traslation 3D

MSE 3D	MSE H	MSE V
772.840	772.840	0.000
Max. Res. X	Max. Res. Y	Max. Res. Z
145.068	1071.243	0.000

Source Points

Number	X	Y	Z
1	121.622	-128.066	50.000
2	141.228	187.718	40.000
3	175.802	135.728	30.000

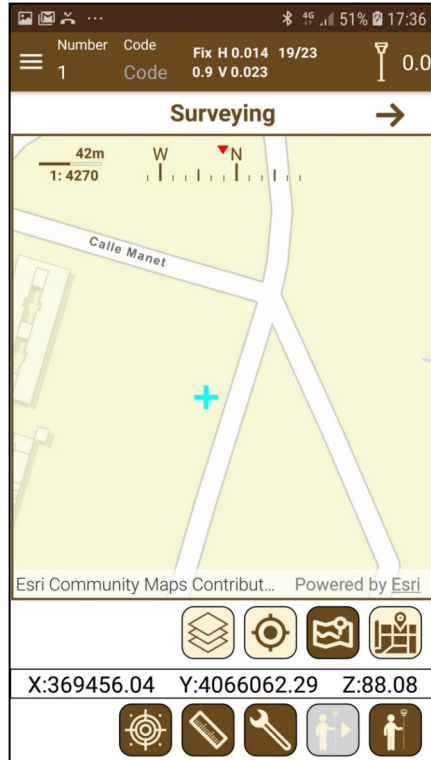
X:369477.18 Y:4066055.93 Z:89.05

✓ + 🏠 📄 👤

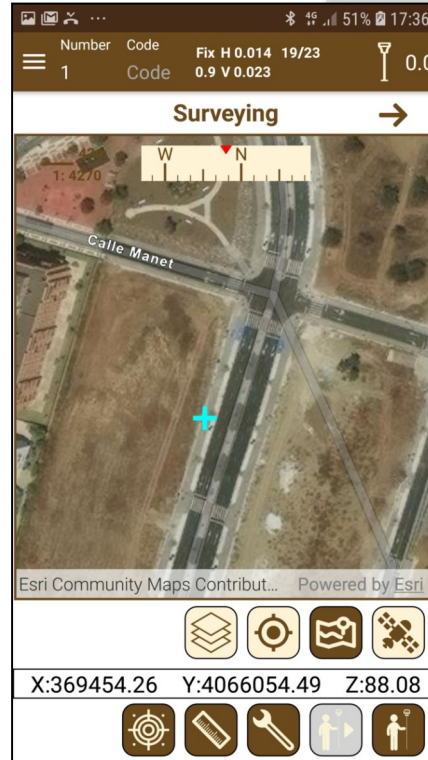
Transformation data

Base Maps

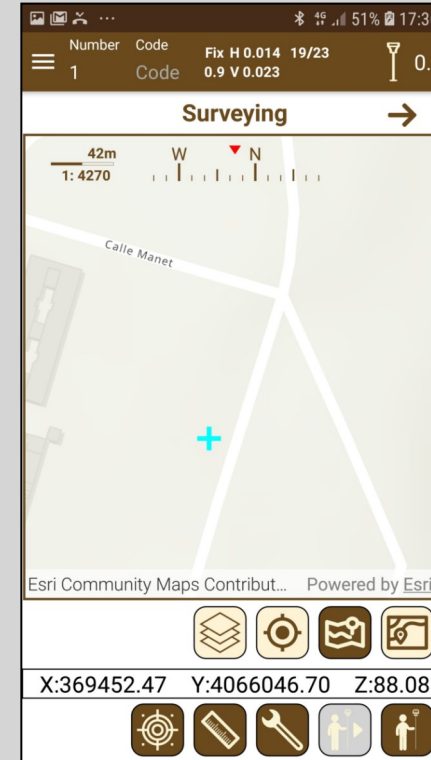
Standard Modes



Street



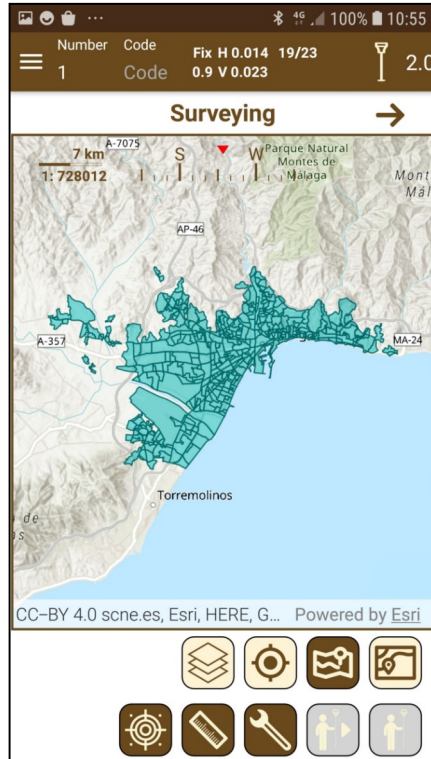
Satellite



Topographic

Base Maps

User Layers



Shape file



DXF/DWG file



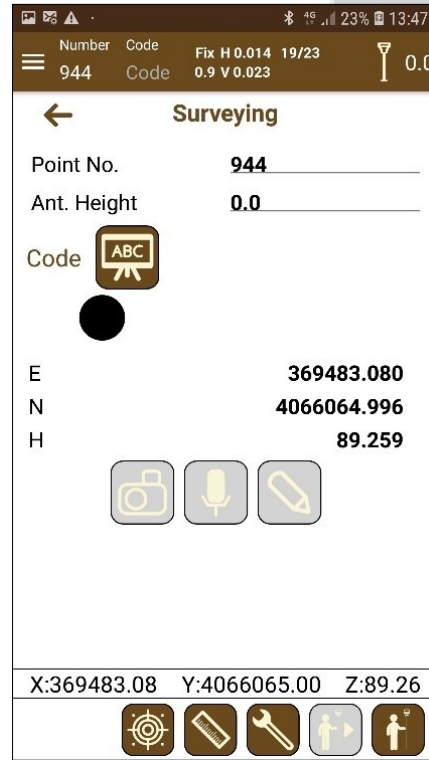
WMS services

Surveys

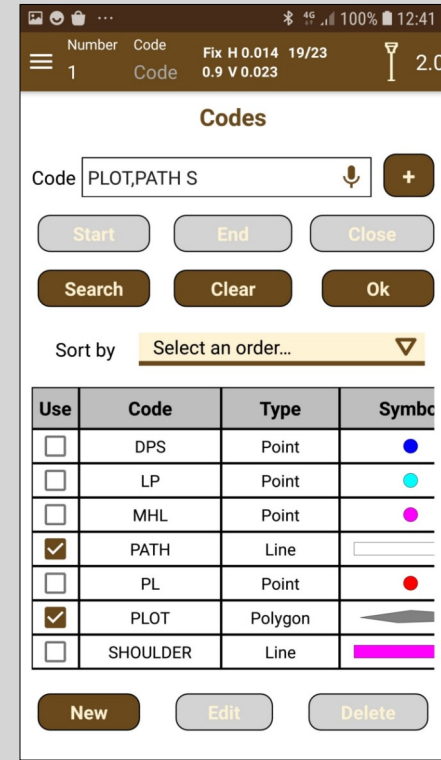
Point surveying



Map mode



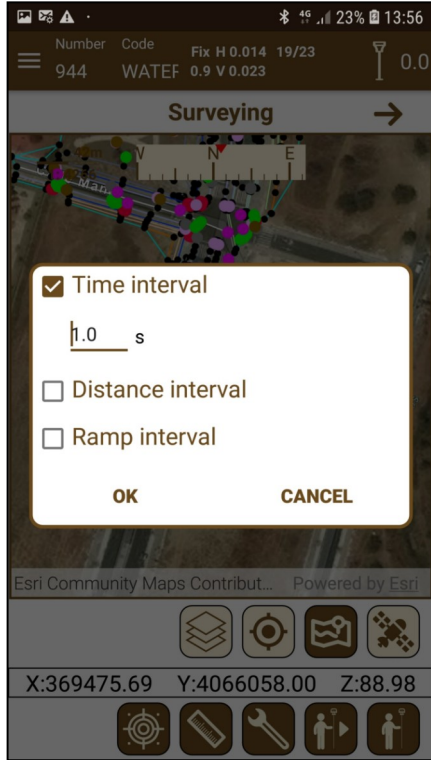
Numeric mode



Codes

Surveys

Continuous surveying



Parameters



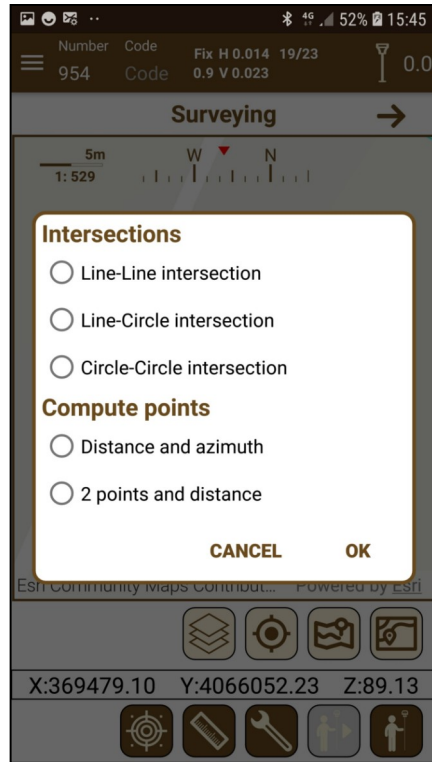
Curb line



Plot

Surveys

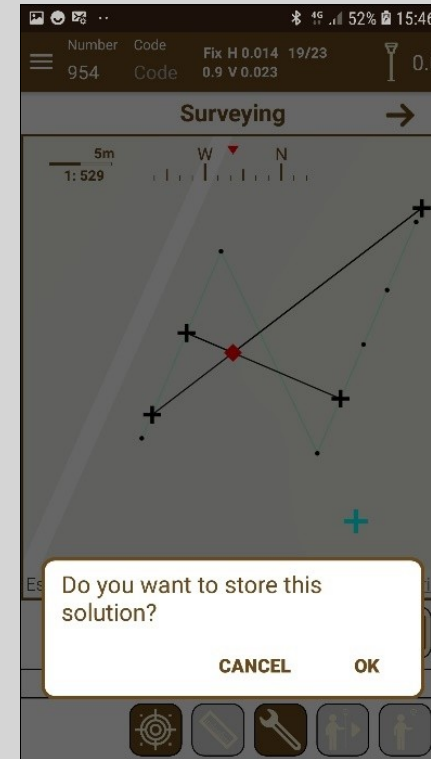
Geometric functions



Tools



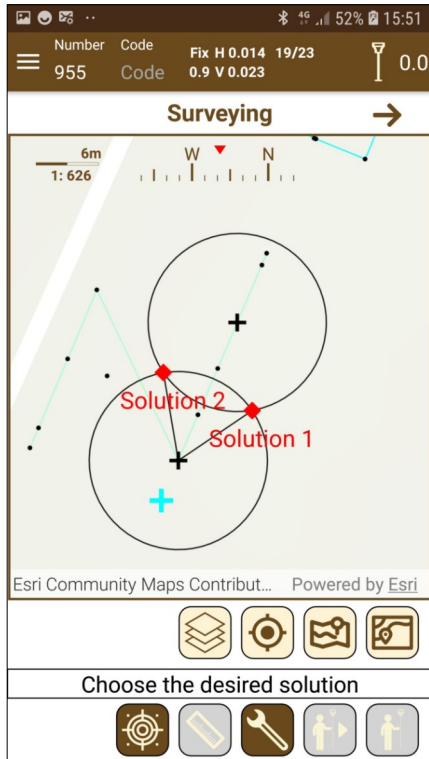
Selection



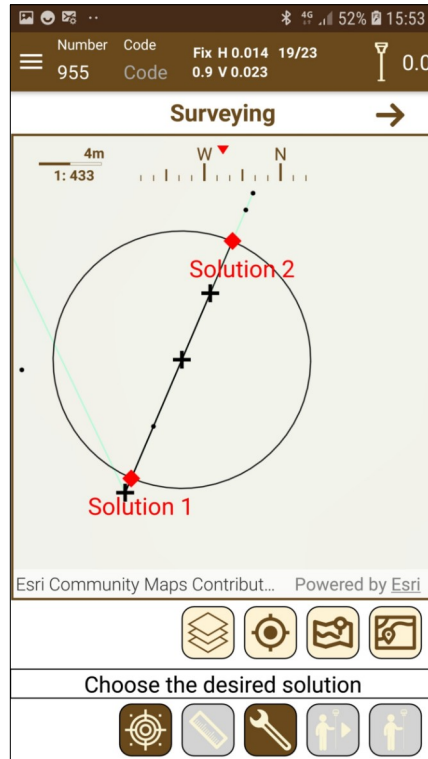
Solutions

Surveys

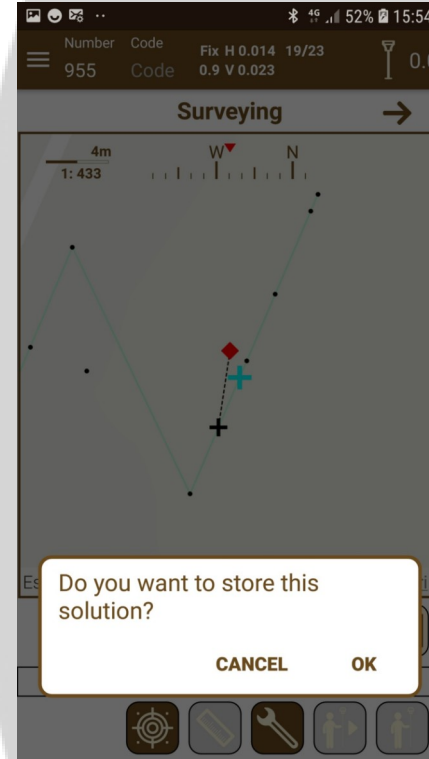
Geometric functions



Circle-circle intersection



Line-circle intersection



Azimuth and distance

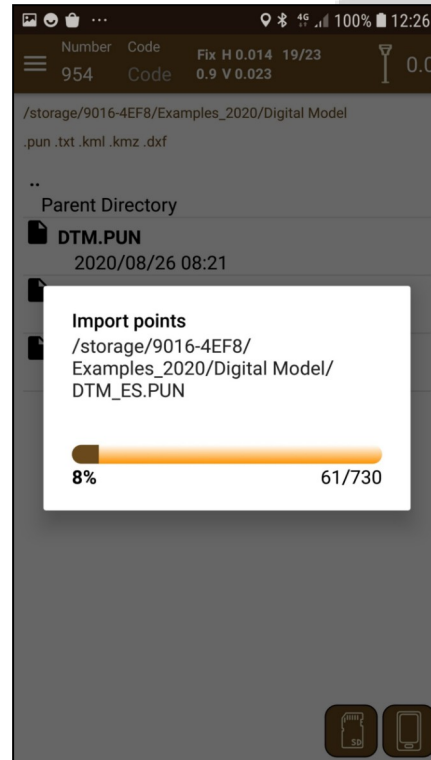


2 points and distance

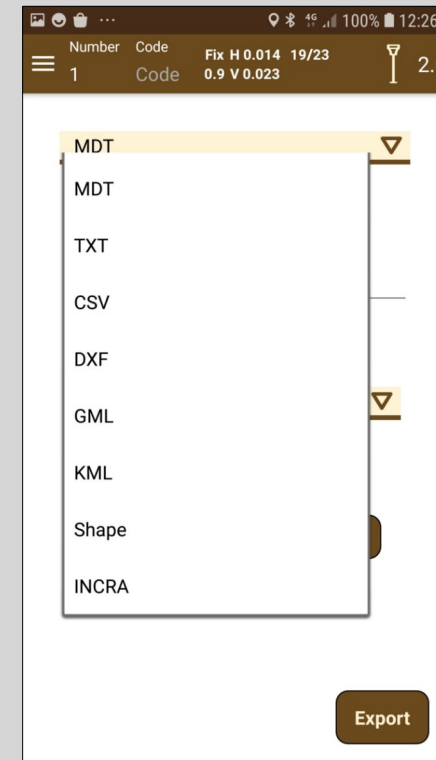
Points Management

Number	Code	Fix	H	V	BT CON	Lon.	Alt.	Position Type
155	PL_1	1.0	0.011	10	BT CON	-4° 27' 45.52082"	133.558	RTK Fixed
5070*						-4° 27' 45.06762"	132.310	RTK Fixed
3700*						-4° 27' 44.58420"	133.260	RTK Fixed
3041*						-4° 27' 44.13099"	133.885	RTK Fixed
2382*						-4° 27' 43.67779"	128.384	RTK Fixed
5196*						-4° 27' 43.40255"	132.450	RTK Fixed
9980*						-4° 27' 43.40442"	128.837	RTK Fixed
4763*						-4° 27' 43.40629"	132.058	RTK Fixed
4128*						-4° 27' 43.40845"	133.003	RTK Fixed
9652*						-4° 27' 43.62504"	132.687	RTK Fixed
5088*						-4° 27' 43.85643"	131.087	RTK Fixed

Points list



Import



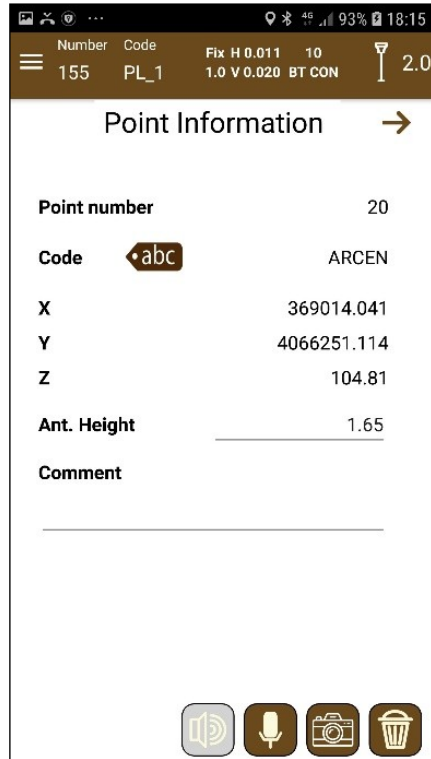
Export

Import formats: PUN, TXT, DXF, KML/KMZ, SHP, GML

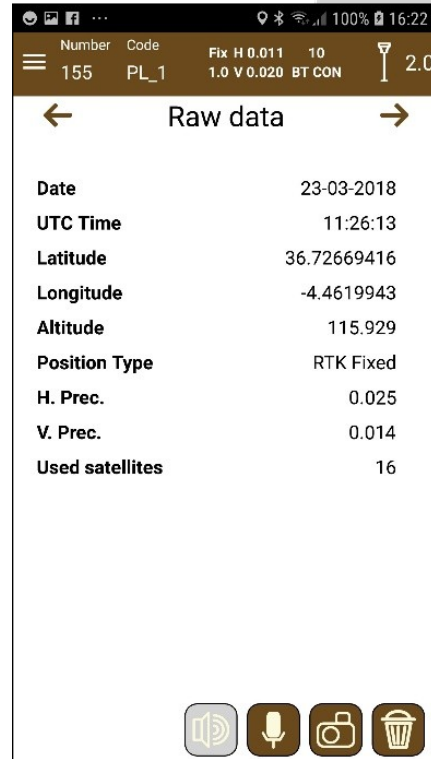
Export formats: PUN, KML, PUN, CSV, TXT, DXF, SHP, GML

Points Management

Point data editing



Basic information

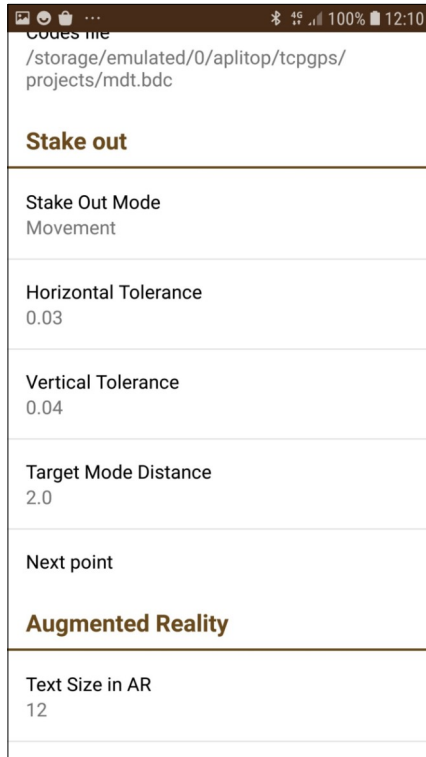


Raw Data

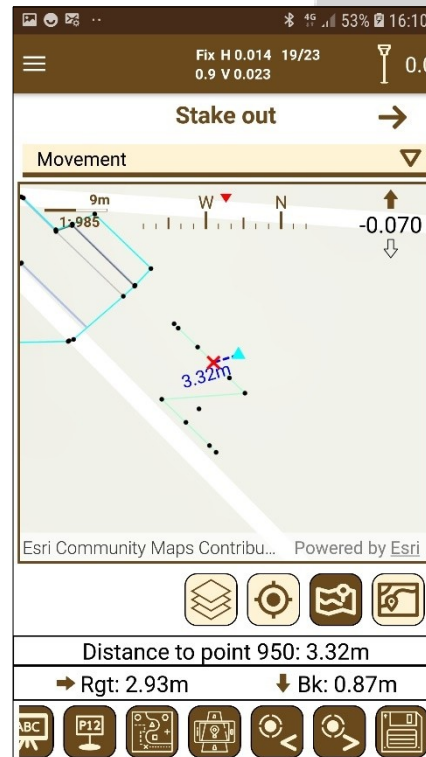


Attached data

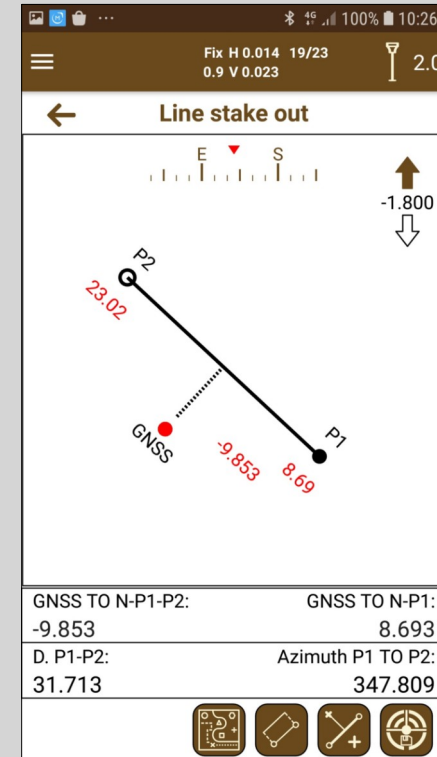
Stake Out



Configuration



Points stake out



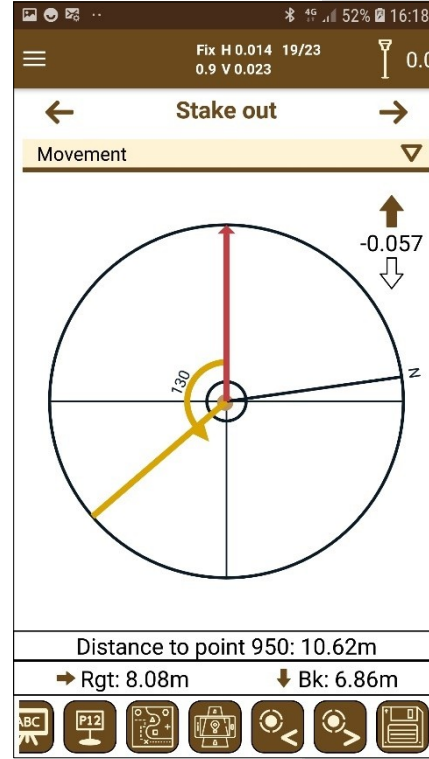
Lines stake out

Stake Out

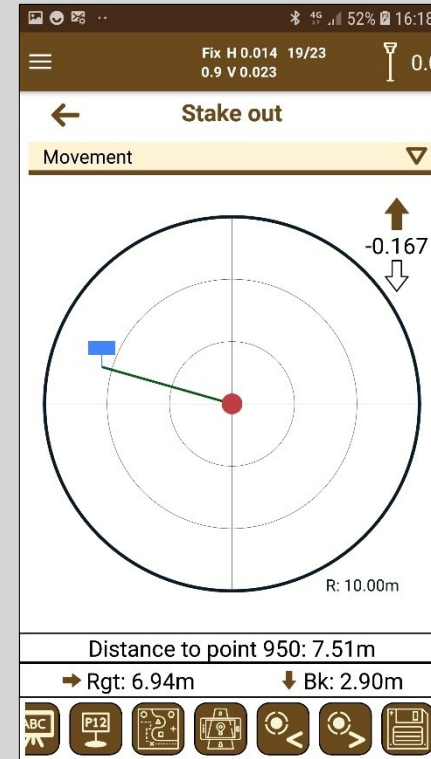
Modes



Map mode



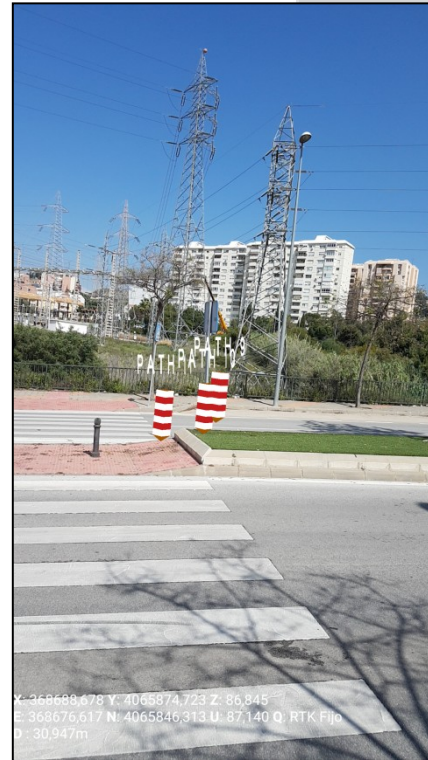
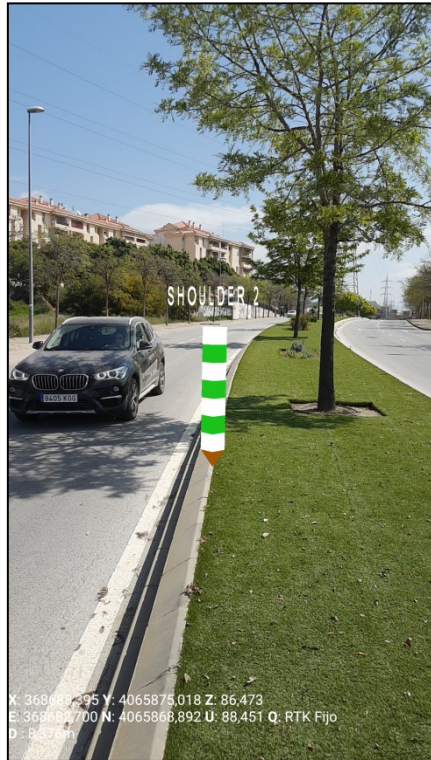
Compass mode



Target mode

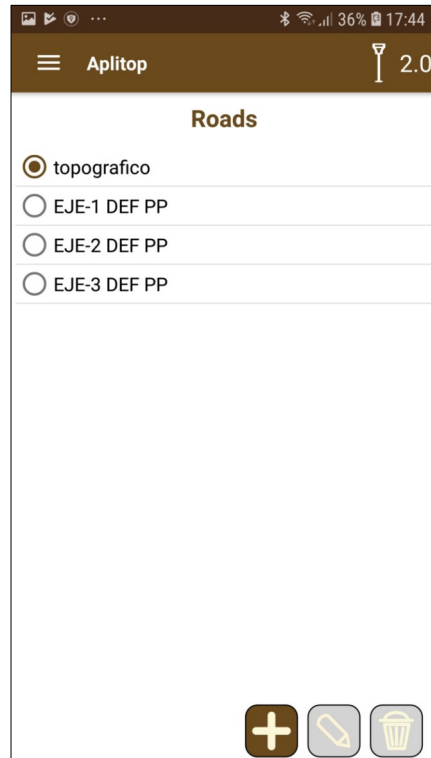
Stake Out

RA Mode

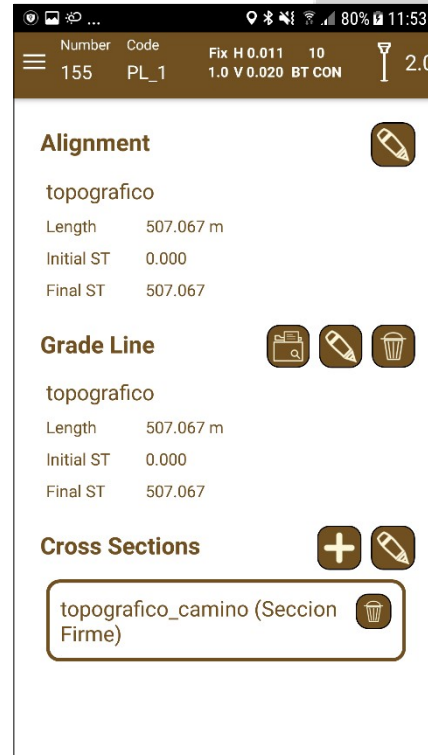


Roads

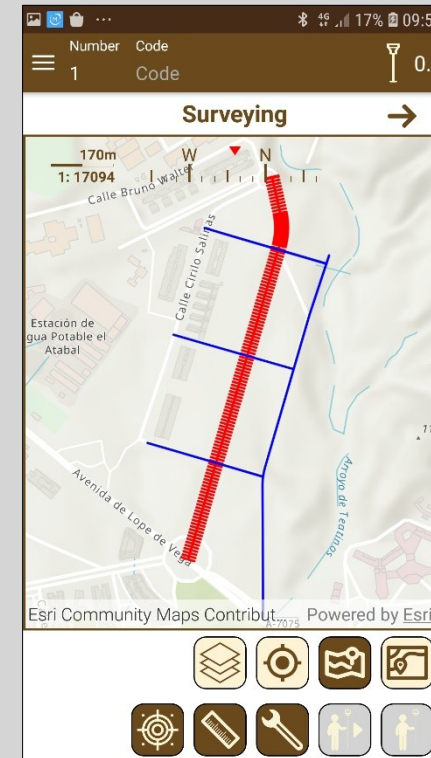
Definition



List of roads



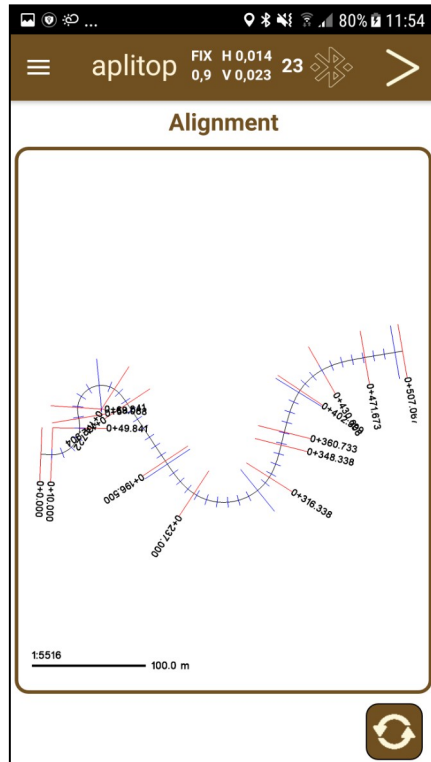
Road edition



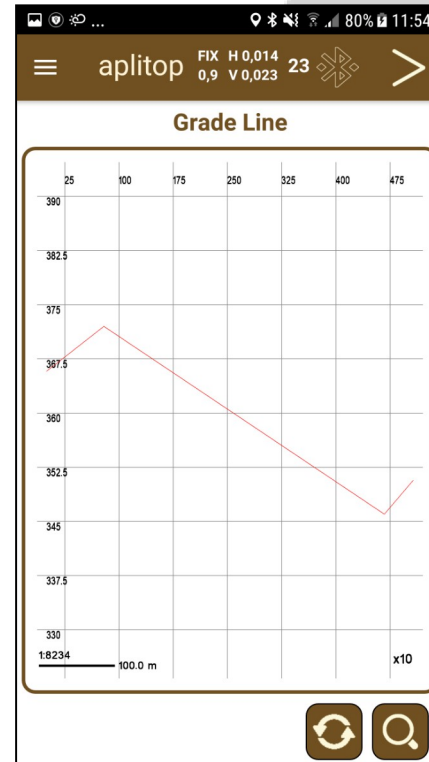
Map view

Roads

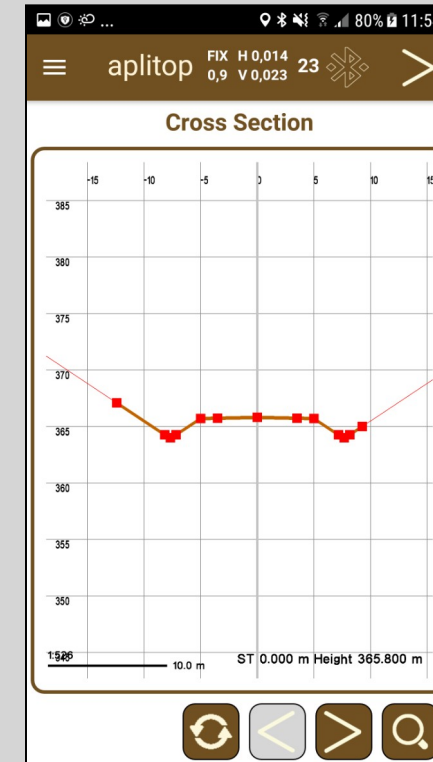
Visualization



Horizontal alignment



Vertical alignment



Cross sections

Roads Stake Out

Number 155 Code PL_1 Fix H 0.011 10 2.0
1.0 V 0.020 BT CON

Roads Stake Out

Horizontal Alignment: topografico

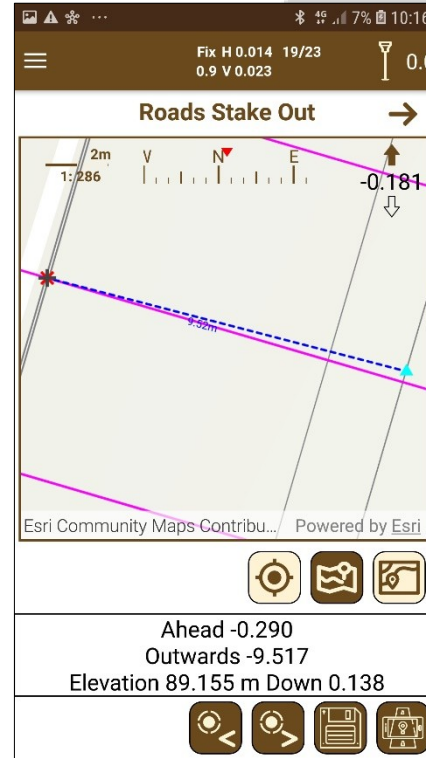
Initial ST 30.000
0+030.000

Interval 5.000
 Singular points

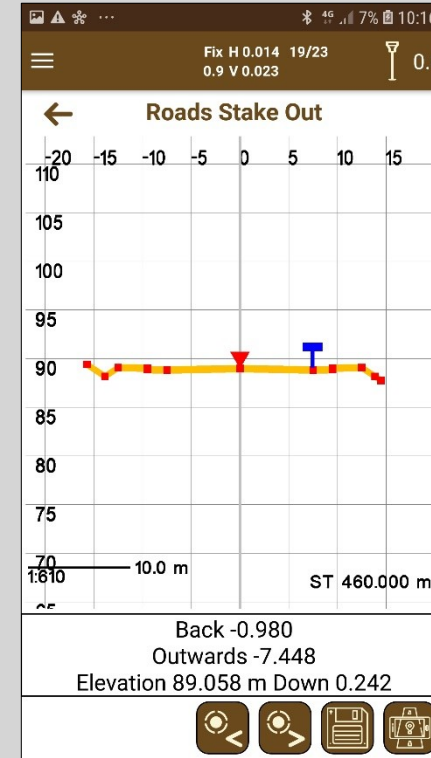
Mode ST & Offset
 ST & Code

Cross Section
topografico_camino (Seccion Firme)
Offset 0

Input data



Top view



Front view

Roads

Slopes Control

Number 155 Code PL_1 Fix H 0.011 10 1.0 V 0.020 BT CON 2.0

Slopes Control

Horizontal Alignment: barbadillo

barbadillo

Stake out by codes

Initial code 72

Left Right

Final code 30

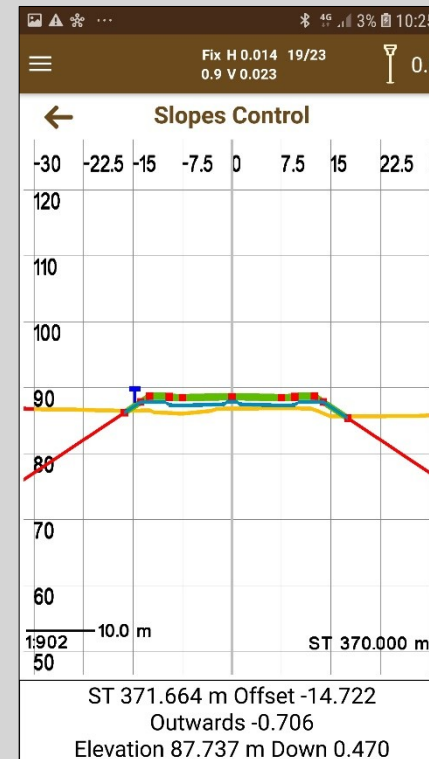
Left Right

Reference height

Auto

Code

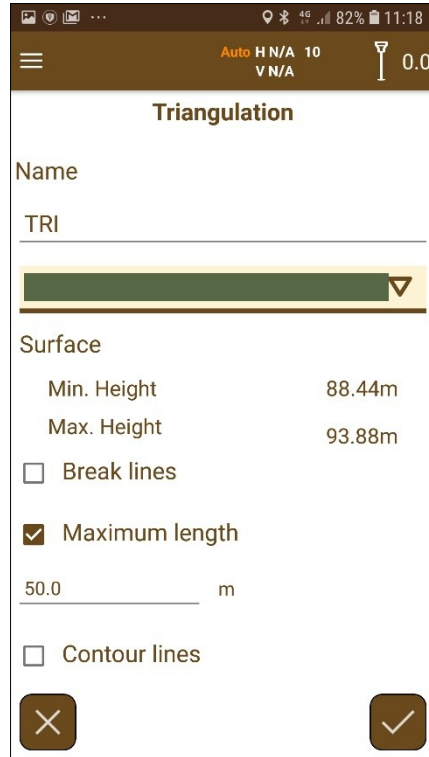
Input data



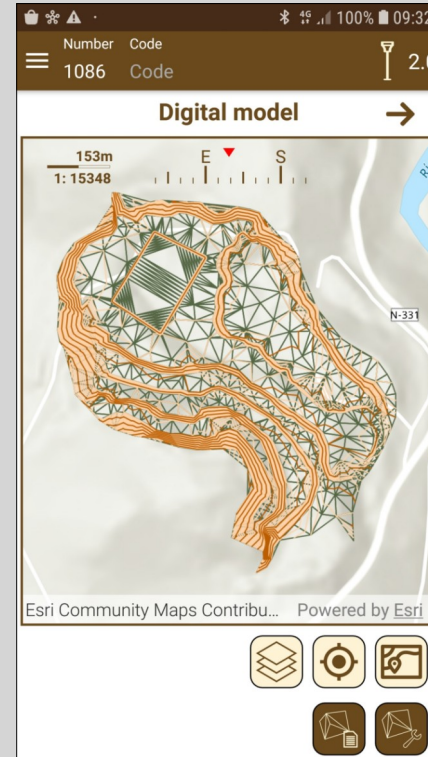
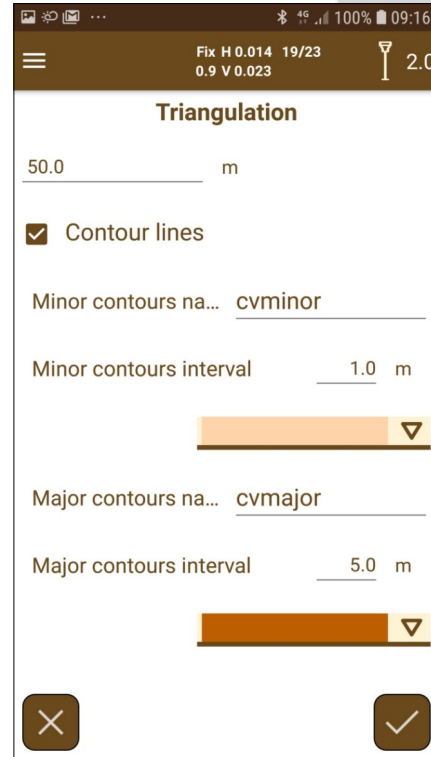
Front view

Digital Terrain Model

Creation



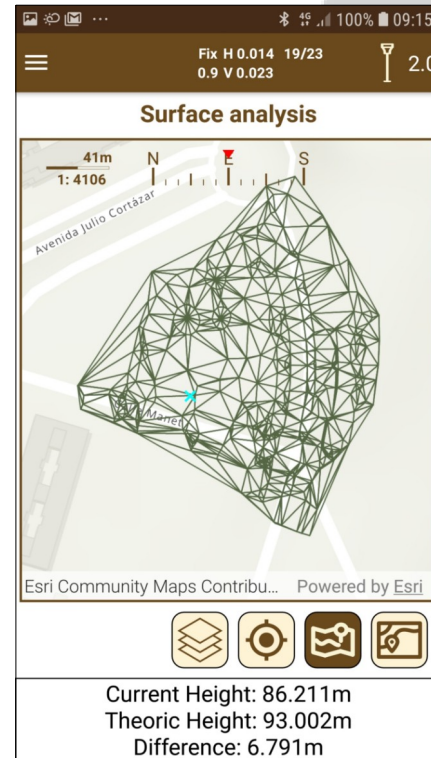
Parameters



Digital model generated

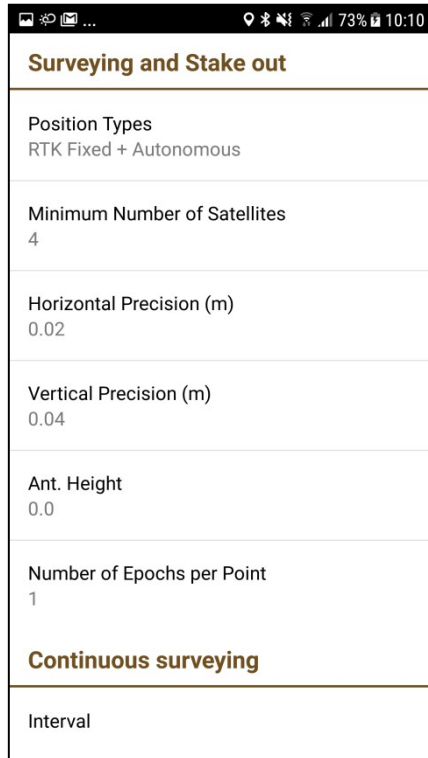
Digital Terrain Model

Surface Analysis

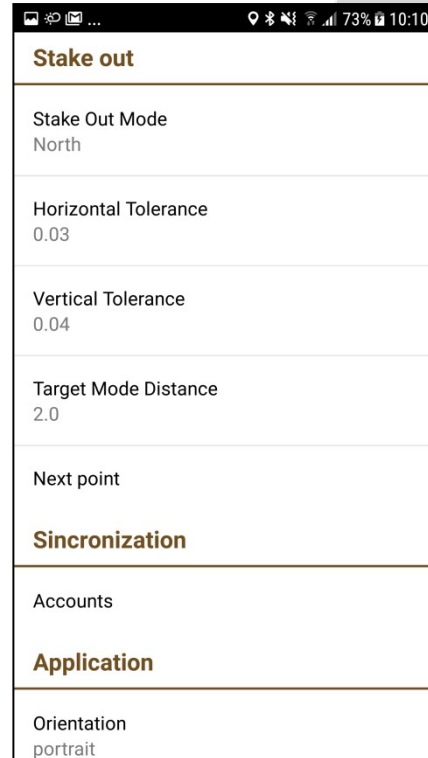


Surface Analysis

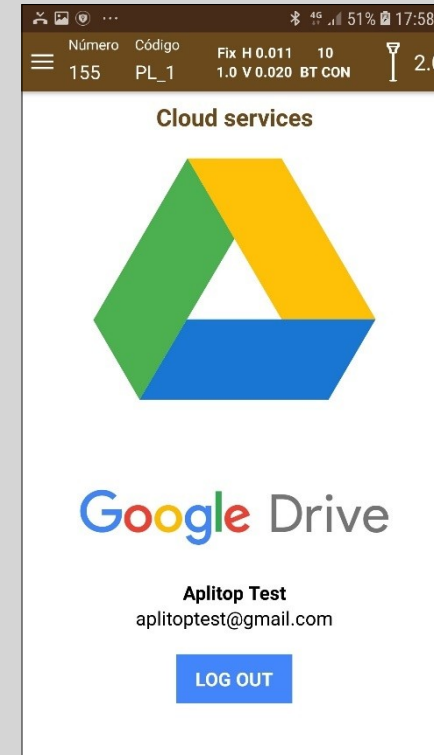
Configuration



Surveying



Stake out



Google drive
synchronization