Leica Geosystems
Release Notes

Product	Leica Zeno Mobile
Date	February 2020
From	Alexander Fischer

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1 About the February 2020 release

1.1 Zeno Mobile v3.1

Build number 3rd party: 1529
Build number Zeno 20: 1530
Release date: 14.02.2020

1.1.1 List of features and functionalities in the latest version of Zeno Mobile

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New Zeno Mobile Features at a Glance

Support of Esri Web Maps
- Zeno Mobile now supports Esri web maps.
- Import and synchronise existing web maps in Zeno Mobile.
- Publish Zeno Mobile projects as a web map to ArcGIS Online.
- For more information on web maps please visit the Esri website.

Note: Esri hosted basemap layers and raster background layers are not supported.

Stakeout improvements
- You can now turn the internal compass of your device on/off.
- This new feature is useful for devices that do not have a tilt compensated compass which can make staking out difficult when using the device at an angle on a survey pole.
- Note when the compass is turned off the stakeout tool is fixed with north pointing 'up'.
- It is recommended to use your device flat where possible when staking out for best compass performance.
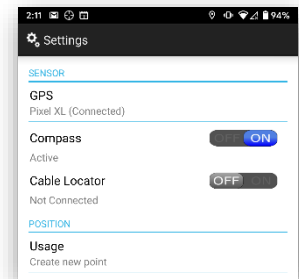
Hexagon Imagery Program
- New layers are now included as part of the built-in WMS.
- Europe 30cm resolution.
- North America 15cm and 30cm resolution.

Improvements and bug fixes
- Fixed exporting layers as ascii text.
- Fixed issues importing KML files.
- Fixed importing Shapefiles outside of a ZIP file from Dropbox.
- Fixed snapping to points originally measured in Zeno Mobile 2.1
- Fixed exporting data to micro SD card on Samsung Tab 2 device.
- Improvement in speed and stability of opening large datasets.

Customer Care Packages (CCP`s)
The maintenance end date for Zeno Mobile has been frozen for this release due to several important improvements. If customers are using Zeno Mobile v3.0 or have a valid CCP until 31.10.19, they will be able to install and use this latest version.

It is always important customers renew expired CCP's to install the latest version.

MyWorld
The latest version of Zeno Mobile is also available to download from
myWorld: https://myworld.leica-geosystems.com/

2 About the October 2019 release

2.1 Zeno Mobile v3.0

Build number: 1498
Release date: 31.10.2019

2.1.1 List of features and functionalities in the latest version of Zeno Mobile

New Zeno Mobile Features at a Glance

Esri Geospatial Cloud
- Connect to ArcGIS Online or your organisation's ArcGIS Online Enterprise account directly from within Zeno Mobile (on premise installations of ArcGIS Online Enterprise are not yet supported)
- Quickly create layers and instantly share them with anyone, anywhere.
- Data is transferred and synchronised between Zeno Mobile and the cloud at the touch of a button. Seamlessly view your data online or in ArcMap and ArcGIS Pro.
- Depending on the requirements of your workforce, data collection privileges can be controlled by Esri user types. For example, a user with type Viewer can only view data in Zeno Mobile and cannot edit, delete or publish. Users with type Editor can view, edit and delete data. Users with type Creator can view, edit, delete and publish new data.
- **Please note:** Online connection to Esri's Cloud system is not supported on Zeno Mobile running on a Zeno 20.

Smart Positioning
- Zeno Mobile's innovative Smart Positioning ensures that you will always receive the best positional accuracy. Depending on the existing conditions and available services, Zeno Mobile selects the optimal correction source – from RTK to Post Processing.
- Revival of GNSS Post Processing! Never worry about the loss of mobile coverage and RTK again. Through Zeno Mobile's Smart Positioning, always have highly accurate coordinates with HxGN SmartNet's cloud post processing service.
- Post Processing – the Zeno Mobile way. Expertise in GNSS post processing is not required. Corrections are performed directly in Zeno Mobile without the need for additional desktop software.
- Service available in all countries that have HxGN SmartNet.
  Please note: A SmartNet RTK GIS Unlimited subscription is required to use Smart Positioning in Zeno Mobile.
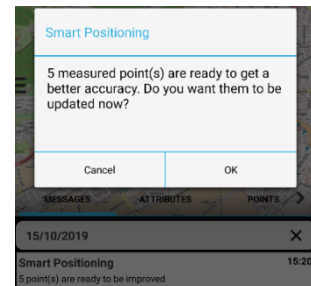
New occupation time settings
- It is now possible to increase the occupation time automatically if GNSS accuracy is worse than a certain value.

- If the accuracy value is met then, an occupation time of 1 second is automatically used and raw data is not stored.

New survey point query function
- It is now possible to query all points/vertices measured from GNSS.
- Combined with Smart Positioning this enables to view the improvements made to your GNSS measurements.
- Filter results based on accuracy or date.
- View GNSS metadata by selecting a point in the table.
- Automatically zoom to a point by selecting it in the table.

Extended GNSS metadata storage
- Store various GNSS meta information (e.g. DOPs, accuracies, number of satellites etc) directly in the features' attributes as an auto field.

Extended Coordinate metadata storage
- Add "coordinate auto fields" to record x,y,z, easting, northing and height as an attribute.

Android 10
- Zeno Mobile now supports the latest Android 10 operating system.

Leica GS07 smart antenna
- Zeno Mobile now supports the Leica GS07 smart antenna.

Further cable locator support
- Connect the MRT-700 underground cable and pipe locator to Zeno Mobile.

Improvements and bug fixes
- Galileo and BeiDou now used during post processing of raw data when available.
- Fixed correct date/time shown in new feature layers.
- Fixed error when measuring first point after force stopping the app.
- Fixed crash when cancelling import of particular raster file.
- Fixed viewing averaging and streaming pop-ups in landscape mode.
- Fixed export to USB on Zeno Tab 1.

Training Videos
Please visit the Leica Zeno GIS YouTube page to view the What's New video.

Use Case Videos
There are two new professional use case videos demonstrating:
- Zeno Mobile's new data flow to Esri's Geospatial Cloud
- Automatic post processing through Smart Positioning

Customer Care Packages (CCP`s)
All customers with a valid CCP contract can install the new Zeno Mobile at no additional costs. The release date of the software is **31.10.2019.** It is important customers renew expired CCP's to install the latest version.

MyWorld
The latest version of Zeno Mobile is also available to download from
myWorld: https://myworld.leica-geosystems.com/

3 About the December 2018 release

3.1 Zeno Mobile v2.1

Build number: 1408
Release date: 13.12.2018

3.1.1 List of features and functionalities in the latest version of Zeno Mobile

New Zeno Mobile Features at a Glance

Raster file support
- It is now possible to use raster images as basemaps
- The formats GeoTIFF, TIF, PNG, JPG and BMP are supported
- Raster images can be loaded in the layer manager of Zeno Mobile in the same way as other currently supported data formats
- Only 8bit raster images are supported across all formats
- Please note you should know the correct coordinate system of your raster images so that they are displayed in the correct location once loaded in the map screen
- If you are using a format other than GeoTIFF you must have an accompanying world file for your images as follows: TIF = TFW, PNG = PGW, JPG = JGW, BMP = BPW
- Please note the larger the image, the longer it will take to load in Zeno Mobile. Size is defined by the number of rows and columns an image has

Android 9 support for 3rd party devices
- Zeno Mobile for 3rd party is now supported on Android versions 5 to 9.1
- Zeno Mobile continues to be supported on the Zeno 20

More control over GNSS raw data logging
- It is now possible to turn raw GNSS data logging on/off by using the on/off switch under the Averaging setting. As soon as you average your position, raw data will automatically be logged.

3M Dynatel locator support
- We have extended our cable locator support by including the 3M Dynatel locator

Amazon Appstore app for Zeno 20
- A new Amazon Appstore app is now available on the Zeno 20
- You can download the app from here
- Please note that the 1MobileMarket app will no longer work

Improvements and bug fixes
- Dropbox account login issue resolved on Zeno 20. Please download and install the Firefox web browser to the Zeno 20 and use it to perform the login for your Dropbox account. If you need assistance with this please contact Zeno Support.

- Due to technical changes made on Zeno Mobile for Zeno 20, Zeno Mobile will no longer auto-run on the device. After installing, a Zeno Mobile shortcut will now be added to the home screen of the Zeno 20.
  If you would like to manually set Zeno Mobile to auto-run please use the following steps:
  - On the Zeno 20 open the *Tools* option
  - Select *Startup*
  - Tap and hold on *Zeno Mobile*
  - Choose *OK* to the message "Do you want to add to [Auto-Run] list this app?"
  - Zeno Mobile will now auto-run whenever the Zeno 20 is switched on
- Transparency support for WMS
- Android screen rotate now supported for 3rd party devices

Training Videos

Please visit the Leica Zeno GIS YouTube page to view the What's New video.

Customer Care Packages (CCP`s)

All customers with a valid CCP contract can install the new Zeno Mobile at no additional costs. The release date of the software is **13.12.2018.** It is important customers renew expired CCP's to install the latest version.

MyWorld

The latest version of Zeno Mobile is also available to download from myWorld: https://myworld.leica-geosystems.com/

Notice

As this release contains several improvements please make sure that every customer updates his current installation either over the air or via manual download from myWorld.

3.2   GPS FW 6.516 for Zeno 20 and GG03

Version number: 6.516
Release date: 13.12.2018

The new GPS FW 6.516 is available now for Zeno 20 and GG03 devices.

3.2.1 List of features and functionalities of the new GPS FW 6.516

New GPS FW 6.516 Features at a Glance
GPS FW Version 6.516   - Bug fixes and minor tracking improvements   **Zeno 20 Android - GPS FW Loader 6.516**   - New apk available to upload the FW 6.516 on a Zeno 20 Android device   - Download the apk installer and user guide from myWorld https://myworld.leica-geosystems.com/   **Zeno 20 Windows & GG03**   - Download the FW file from myWorld https://myworld.leica-geosystems.com/ and update the FW with the available FW loader tools, which are included with Zeno Field and Zeno Connect.

> **Please note**: on the Zeno 20 Windows version, the GPS must be switched on manually in the WEH settings, before a FW upload can be started.

3.3 GG04/GG04 plus Firmware

The new GG04/GG04 plus firmware is available to download from myWorld.

Firmware versions:
ME firmware: 7.500 (GG04 and G004 plus)
IF firmware: 1.0.23 (GG04 plus only)
Release date: 15.11.2018

3.3.1 List of features and functionalities of the new GG04/GG04 plus Firmware

New GG04/GG04 plus Firmware Features at a Glance

GG04 & GG04 plus
- General tracking & positioning improvements, especially for Galileo satellites
- TerraStar-C PRO support
- Support of Galileo Signals when using Spot Prime which allows more stable positioning through higher amount of satellites used
- Drastically improved convergence times for Spot Lite & Prime
- Spot Prime: approximately 15 minutes of convergence time until accuracy < 10cm
- Spot Lite: approximately 8 minutes of convergence time until accuracy < 60cm

All Spot Lite and Spot Prime licenses will automatically be upgraded to the PRO version when using latest FW. To maximize Spot licenses, be sure to add Galileo to your tracked satellite systems.

GG04 plus only
- Automatic reconnect functionality available for iOS devices
- A GG04 plus antenna will remember which iOS devices it was last connected to and will automatically establish the connection if the iOS device is in range and Bluetooth is switched on
- Reconnect is already available for Android devices

4 About the August 2018 release

4.1 Zeno Mobile v2.0

Build number: 1356
Release date: 21.08.2018

4.1.1 List of features and functionalities in the latest version of Zeno Mobile

New Zeno Mobile Features at a Glance
3rd party Android phone and tablet support ▪ Zeno Mobile will now run on your own Android phone or tablet. ▪ Compatible with Android versions 5,6,7 and 8. ▪ Zeno Mobile for Android phones and tablets is only available for download from myWorld. ▪ Please refer to myWorld for a guide with details on the new licensing approach for 3rd party devices.
New Zeno Mobile for Zeno 20 ▪ As well as now being available on 3rd party devices, Zeno Mobile for Zeno 20 also takes advantage of all the new features, fixes and improvements in version 2.0.
GG04 plus Tablet Solution support ▪ Zeno Mobile runs on the Zeno Tab 1 Android tablet which is part of the new GG04 plus Tablet Solution.
New Cut feature ▪ The new cut feature allows polygons to be cut where they overlap or intersect.
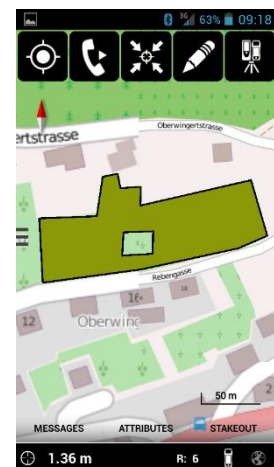
Improved symbology
- New point, line and polygon symbology options are now available.
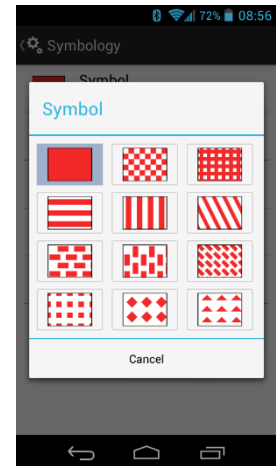
Updated Help
- The internal Zeno Mobile help has been updated.
- Please note – to read the new Zeno Mobile help on your device, if you do not already have one, download and install a .PDF viewer.

Improvements and bug fixes
- Improved SBAS accuracy estimation.
- Estimated accuracy now shown in Android web browsers when configured using the Geolocation API.
- WMS server names with special characters now supported.

Customer Care Packages (CCP`s)
All customers with a valid CCP contract can install the new Zeno Mobile at no additional costs. The release date of the software is **21.08.2018.** It is important customers renew expired CCP's to install the latest version.

MyWorld
The latest version of Zeno Mobile is also available to download from myWorld: https://myworld.leica-geosystems.com/

Notice
As this release contains several improvements please make sure that every customer updates his current installation either over the air or via manual download from myWorld.

4.2 Leica Zeno Tab 1 & GG04 plus Tablet Solution release

Release date: 21.08.2018

New Leica Zeno Tab 1 & GG04 plus Tablet Solution at a glance

Leica Zeno Tab 1

- Lightweight, ergonomic and easy-to-use Android 6 tablet. Designed to be used outdoors, the large, bright screen brings mapping to life and can be used in all weather conditions.
- Leica Zeno Mobile and Leica Zeno Connect both support the Leica Zeno Tab 1, allowing you to combine the tablet with the Leica GG04 plus to enable highly accurate GNSS data collection.
- It is highly recommended that the tablet Android firmware is updated before first use to ensure correct operation.

GG04 plus Tablet Solution

- Complementing the tablet with the Leica GG04 plus smart antenna and Leica Zeno Mobile app, you now have the ultimate GIS asset collection solution, all from one trusted provider. This light-weight, easy to use and accurate **Leica GG04 plus Tablet Solution** all-in-one package will boost your data capture productivity.

Notice
Leica Zeno Tab 1 related downloads and information can be found on myWorld, on the Leica Geosystems web page or directly on the Getac homepage.

5 About the February 2018 release

5.1 Zeno Mobile v1.9

Build number: 1287
Release date: 16.02.2018

5.1.1 List of features and functionalities in the latest version of Zeno Mobile

New Zeno Mobile Features at a Glance

GG04 plus support
- The new Leica GG04 plus smart antenna is now supported in Zeno Mobile. All benefits of the GG04 plus antenna can now be utilized within Zeno Mobile.

Multi-part features supported
- It is now possible to import shapefiles that contain multi-part features.
- Zeno Mobile supports multi-part polygons and polylines.
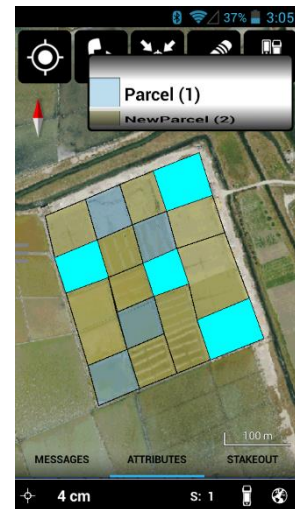
Improved cable locator workflow
- A second workflow for the cable locator is now supported in Zeno Mobile.
- It is possible to measure buried utilities and send the measurement directly to Zeno Mobile, without the need to activate or create a feature class first.
- You only need to enter the offset between the Zeno 20 and the cable locator.

Improvements and bug fixes
- AS10/05 antenna selection. If you select AS10/05, you will only get a position if the antenna is plugged in correctly.
- Solved the issue causing features not visible in the map due to the use of a sim card.
- The multipart feature support solves the issue importing shapefiles with "donut polygons" or "island polygons".
- KML: Pictures displayed better in Google Earth.

6 About the November 2017 release

6.1 Zeno Mobile v1.8.2

Build number: 1251
Release date: 14.11.2017

6.1.1 List of features and functionalities in the latest version of Zeno Mobile

New Zeno Mobile Features at a Glance

New coordinate systems supported
- Ordnance Survey Great Britain 2015 CSCS and Geoid models now supported.
- New coordinate systems for Norway, Australia and USA.

Norway
Euref89 UTM 32,33 & 35
NTM Zone 05 - 30

Australia
GDA 2020 18 specific areas
GDA 2020 MGA Zone 46 – 59
GDA 2020 MRCG2020
GDA 2020 NSW Lambert
GDA 2020 PCG2020
GDA 2020 PHG2020
GDA 2020 SA Lambert
GDA 2020 VICGRID

USA
All state plane zones:

NAD 1983 CORS96 (Intl Feet)
NAD 1983 CORS96 (Meters)
NAD 1983 CORS96 (US Feet)

NAD 1983 NSRS2011 (Intl Feet)
NAD 1983 NSRS2011 (Meters)
NAD 1983 NSRS2011 (US Feet)

NAD 1983 PA11 Hawaii Zone 1-5 (Meters)
NAD 1983 PA11 Hawaii Zone 1-5 (US Feet)

7 About the October 2017 release

7.1 Zeno Mobile v1.8.1

Build number: 1236
Release date: 11.10.2017

*7.1.1 List of features and functionalities in the latest version of Zeno Mobile*

New Zeno Mobile Features at a Glance

Improvements and bug fixes
- Fixed the Dropbox connection in Zeno Mobile issue due to changes made to the Dropbox API. Please note that the Dropbox connection will no longer work on all versions of Zeno Mobile prior to this 1.8.1 release.

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8 About the September 2017 release

8.1 Zeno Mobile v1.8

Build number: 1227
Release date: 25.09.2017

8.1.1 List of features and functionalities in the latest version of Zeno Mobile

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New Zeno Mobile Features at a Glance

Extended attribute options
- Required attributes.
- Heritable attributes allow the first value entered to be retained for each feature created until the attribute is changed.

Improved point averaging
- It is now possible to enter a time in seconds for point averaging.
- There is no limit to the time entered so very long occupation times can be used for more accurate post processing.

New shortcuts in Attributes drawer
- Quickly display the wheel menu by tapping on the name of the selected feature in the attribute drawer.
- Quickly add more features using the plus icon in the attribute drawer (Zeno Mobile professional only).

Improved import and export of ASCII files
- It is now easier to import ASCII text files as a layer in Zeno Mobile.
- Files can be imported with a minimum of just X and Y coordinates.
- Special file encoding is no longer required.
- Different separators are now supported including comma, semi-colon and blank space.
- Normally invalid characters for attribute names and attribute values can now be used.
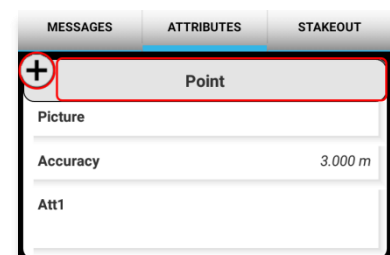
Improvements and bug fixes
- Projects are ordered based on the modification date in the "Open Project" list.
- When creating a new project, the "base on project" is remembered from the previous choice.
- When creating a new project, the storage system (internal or SD card) is remembered from the previous choice.
- Cable locator support: It is now possible to select the unit of the depth field.
- Improved post processing results.
- Improved estimated accuracy display for L1 antennas.
- Fixed blue light occasionally blinking on GG04.
- CAD files that have built in offset are now displayed correctly.
- Improvements made to WMS compatibility.

9 About the June 2017 release

9.1 Zeno Mobile v1.7

Build number: 1168
Release date: 01.06.2017

9.1.1 List of features and functionalities in the latest version of Zeno Mobile

New Zeno Mobile Features at a Glance

CAD support (read-only)
- DXF and DWG files can be added to Zeno Mobile and
  - displayed as background data.
  - used to stakeout points/lines.
- CAD data can be imported and used in a similar way to shape files.
- In this Zeno Mobile version CAD editing is not supported yet.
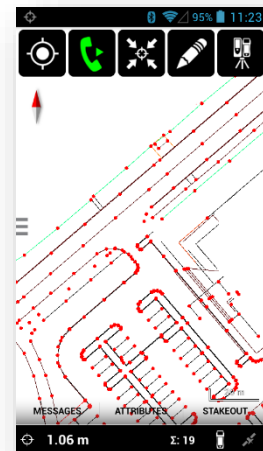
Raw data logging
- Raw data logging is now always active within Zeno Mobile projects.
- m00 files are created and saved in an observations folder within a Zeno Mobile project.
- In order to post process a Zeno Mobile project in Zeno Office, a new Zeno Office version will be required. This new version will be available in the coming weeks. Please ask for a Beta in urgent cases.

Symbology
- New symbology settings allow you to change the border colour and border thickness of points, lines and polygons.

Cable Locator Support
- Support for Leica Ultra and Radiodetection RD8100 cable detectors.
- Pair devices via Bluetooth.
- Automatically transfer measurements to attribute fields in Zeno Mobile.
- Alter Z values of measured features based on their depth.
- Cable Locator support is only available in Zeno Mobile Professional.

Improvements and bug fixes
- Stability improvement related to the camera: the device was crashing after almost 30 pictures
- KML: fixed the issue of wrong symbology with a specific user case
- KML: fixed the issue with layer name longer than 40 characters
- Improvement of the user interface with specific languages
- ASCII: Solved export issue due to the decimal separator
- Improvement in WMS support
- New symbology settings
- Coordinate Systems: fixed the issue of the "none" displayed even if a CSCS is being used.

10 About the October 2016 release

10.1 Zeno Mobile v1.6

Build number: 1097
Release date: 03.10.2016

10.1.1 List of features and functionalities in the latest version of Zeno Mobile

New Zeno Mobile Features at a Glance

GNSS Correction Auto Connect
- As soon as you have a position, the selected RTK profile will be utilized to automatically.
- A switch allows you to disable this functionality if needed.
- The Auto connect is ON by default, you can switch off any time.
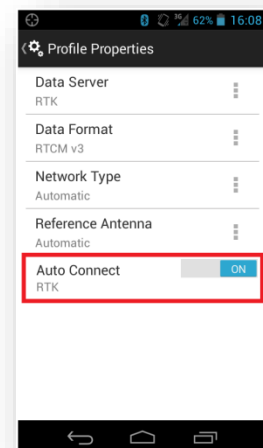
Attribute reordering
- Drag and drop an attribute to a new position to reorder the attributes in the Attributes dialog.

Position Limits

- Define quality limits to ensure certain accuracy for your measurements.
- Time and Distance limits are available.

Streaming
- Continuously capture points/vertices. This is now possible using streaming mode based on time and distance intervals.

From ArcGIS/Zeno Office to Zeno Mobile
- Define a data model in ArcGIS/Zeno Office
  So far Zeno Mobile projects had to be defined in Zeno Mobile or Excel only. Now an empty data schema can be generated in the GIS as well.
- Installation:
  - Download the **Zeno Data Model for ArcGIS** addin from my World ("tools" section in Zeno Field/Zeno Mobile/Zeno Connect).
  - Make sure Zeno Office/ArcGIS is closed
  - Double-click the addin to start the installation
  - Start ArcGIS/Zeno Office and load/generate your data
  - Supported data formats are shapes, file/personal geodatabases, dxf, dwg
- Right-click a layer and select Zeno Export
- For further information please refer to the "Zeno Data Model for ArcGIS_Quick Guide"

Improvements and bug fixes
- A more intuitive GPS setting allows you to enter antenna settings more quickly.
- New intuitive UI in the Zeno Mobile Notification Area showing solution type and GNSS correction.
- A notification informs the user when an invalid/unauthorized RTK connection is used.
- Improvements to WMS support.
- Improvements to import/export from/to SD card/USB.
- Pictures taken in Zeno Mobile are now also visible in the Android gallery
- Fix: The antenna icon in the notification area was not correct when the user changed the antenna type (AS05/AS10).
- Fix: On rare occasions layers no longer displayed in the project
- Fix: The Selection roll or the Wheel Menu were missing in certain workflows
- Major stability improvements and crash fixes.

11 About the June 2016 release

### 11.1 Zeno Mobile v1.5

Build number: 1069
Release date: 16.06.2016

11.1.1 List of features and functionalities in the latest version of Zeno Mobile

New Zeno Mobile Features at a Glance

WMS
- Zeno Mobile supports Web Map Services (WMS) now. Enter the credentials to a private or public hosted WMS and benefit of raster data in Zeno Mobile.
- There are many public WMS with high resolution areal pictures available in the net.
- Support of various coordinate systems
- WMS data is cashed automatically and can be used offline

USB device/SD card support
- Import data from a USB device/SD card to Zeno Mobile
- Export data to a USB device/SD card from Zeno Mobile
- This enables a more flexible workflow between field and office

Coordinate system improvement for Ireland and Northern Ireland
- Ireland: Select coordinate system "TM75 Irish Grid" or "TM65 Irish Grid" and the correct CSCS and Geoid are applied automatically to obtain centimetre accurate coordinates.
- Northern Ireland: Select "OSNI 1952 Irish National Grid" and the correct CSCS and Geoid are applied automatically to obtain centimetre accurate coordinates.
- Please note, this will work only for customers with shipping country "Ireland" or "Northern Ireland"

Improvements and bug fixes
- Minor stakeout improvements
- Fix for Arabic, Farsi, Latvian, Romanian and Turkish translation of Zeno Mobile
- Coordinate systems and help is updated now automatically with installing the latest Zeno Mobile release. Custom transformations are not overwritten.
- Before deleting an attribute or feature, the user has to accept a warning message.
- Fixes for shape files with capital letters in the extension (.SHP, .DBF, …).
- All Zeno Mobile pictures include now geotagging information once geotagging is enabled in the Android camera options.
- Crash fixes

11.1.2 Available Languages

Zeno Mobile is now available in 27 languages:

1. Arabic	16. Macedonian
2. Chinese Traditional	17. Norwegian
3. Chinese Simplified	18. Polish
4. Czech	19. Portuguese Portugal
5. Danish	20. Portuguese Brazil
6. Dutch	21. Russian
7. Farsi	22. Serbian
8. Finnish	23. Slovakian
9. French	24. Slovenian
10. German	25. Spanish
11. Greek	26. Swedish
12. Hungarian	27. Turkish
13. Italian	
14. Korean	
15. Latvian	

➔ if your language is not yet supported, please talk to Alexander Fischer.

12 About the April 2016 release

12.1 Zeno Mobile v1.4

Build number: 1039
Release date: 14.04.2016

12.1.1 List of features and functionalities in the latest version of Zeno Mobile

12.1.2 Stakeout

- Walk the line!
  As the name already indicates, Zeno Mobile assists you to walk along line and polygon features. Activate a line/polygon and the Stakeout window informs about distance and direction between your current position and the line/polygon feature.
- Enter target coordinates.
  Define a target for the Stakeout by entering either local or WGS84 coordinates.
- Stakeout is available for Zeno Mobile Professional only.
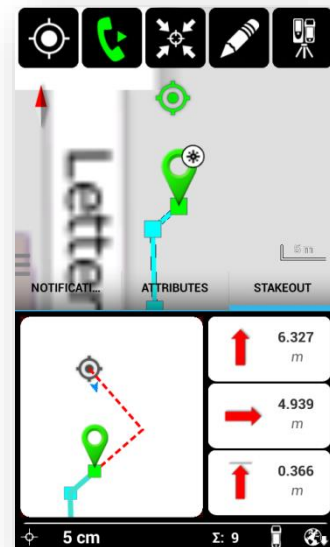
12.1.3 From MS Excel into Zeno Mobile

- Define a data model in the office.
  So far Zeno Mobile projects had to be defined in Zeno Mobile only. Now an empty data schema can be generated in the office as well.

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www.leica-geosystems.com/Zeno

- Download the **Zeno Data Model for Excel** spreadsheet from my World ("tools" section in Zeno Field/Zeno Mobile/Zeno Connect).
- Define your data structure:
  - Feature layers
  - Symbology
  - Attributes
  - Auto-Attributes
  - Copy/Paste list fields
- Export the data model and add it to Zeno Mobile.

|	A	B	C	D	E	F	G	H
	Export Data Model							
	Layers							
	Name	System Name	Geometry Type	Symbol Color	Symbol Size	Name	System Name	Type
	Tree	Tree	Point		15	Code	Code	Number
						Photo1	Photo1	Photo
						Photo2	Photo2	Photo
						Photo3	Photo3	Photo
						Name	Name	List

12.1.4 Quick Attribute Input

Entering attributes required quite some clicks in Zeno Mobile so far. That's why we added a new way to enter attributes on the fly directly in the Context Window.
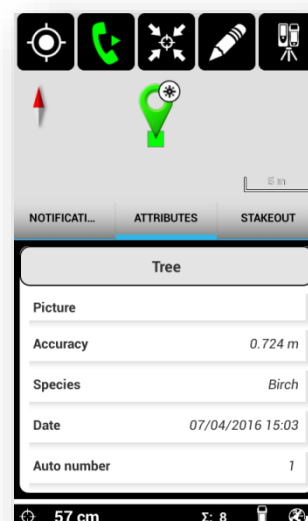
12.1.5 Support of new coordinate systems and transformations

- Slovenia: New Slovenia D48 /GK and Slovenia D96/TM
- Czech Republic and Slovakia: New S-JTSK Krovak East North that can be used to export data to GIS and CAD.
- Turkey: New ITRF96 coordinate systems

12.1.6 Improvements and bug fixes

- Various enhancements for gamtec in feet coordinate systems.
- Levelling of the compass is only required once it's really in use.
- Moving a vertex can be done only in case of enabling the edit mode. This prevents moving vertices accidently.
- Further fixes and performance optimization.

12.1.7 Available Languages

Zeno Mobile and Zeno Connect (Android) is now available in 27 languages (find new languages in bold):

1. **Arabic**
2. Chinese Traditional

3. Chinese Simplified
4. Czech
5. Danish
6. Dutch
7. **Farsi**
8. Finnish
9. French
10. German
11. Greek
12. Hungarian
13. Italian
14. Korean
15. **Latvian**
16. **Macedonian**
17. Norwegian
18. Polish
19. Portuguese Portugal
20. Portuguese Brazil
21. Russian
22. Serbian
23. Slovakian
24. **Slovenian**
25. Spanish
26. **Swedish**
27. **Turkish**

13 About the December 2015 release

13.1 Zeno Mobile v1.3

Build number: 994
Release date: 07.01.2016

This release includes new features and various improvements.
Important note: Please ensure that everybody **downloads** the new version from **myWorld** as this update also fixes some problems with the update over-the-air.

13.1.1 List of features and functionalities in the latest version of Zeno Mobile

13.1.2 Stakeout

- Stakeout is available for Zeno Mobile Professional only
- How to use?
  - Move the green pin on a point/vertex to define the stake out target
  - Verify the stake-out results (including offsets and estimated accuracy) and export a report as shape, ASCII or kml
  - Store staked out offsets directly in the feature class as attributes

13.1.3 Auto Types

This feature adds automatically values to your attribute fields. Depending on your geometry type following auto fields can be selected:
- Creation Date

- Modification Date
- Auto Number
- Accuracy (Point only)
- Area (Polygon only)
- Perimeter (Polygon only)
- Length (Polyline only)
- Offset (Point only)

Please note: Auto Type are not backward compatible.
- The new Auto Types function is not compatible with old Zeno Mobile version. A project created in this Zeno Mobile release, **cannot** be opened in a previous Zeno Mobile version.
- Data measured in feet will be converted to meters once it's exported to shp/ASCII/kml. This prevents confusion as no unit can be saved in these files.

13.1.4 Position Usage

A new setting is available now. Define what Zeno Mobile should do when a measurement is done.
- **Create a new point**: When you tap the measurement button, a new feature or a new vertex of a feature is generated. That's exactly what happened in all previous Zeno Mobile versions. The cursor reflects this mode with a small asterisk.

- **Update position of active point**: Move the green pin onto the point/vertex you intend to update and tap the measurement button. Coordinates and accuracy values are updated according to the new GPS position.

- **Verify Position of active point:** Move the green pin onto the vertex you want to verify, tap the measurement button: a "Verified Point" layer is created. This new layer contains all the information related to the verification (Offsets to the target point, Height Accuracy, Position Accuracy, Modification Date, Picture). It is possible to save the dZ, dY, dZ offset values also in the original feature layer.

13.1.5 Averaging

Averaging allows to specify the number of incoming GNSS positions that will be used to calculate an averaged coordinate.

13.1.6 Support of international character sets

- Display and define attributes and layer names in e.g. Chinese/Arabic/Korean/Japanese/Cyrillic…
- Display layers generated in ArcGIS in various character sets properly in Zeno Mobile

13.1.7 *Performance and Stability Improvements*

- TRFSET.dat: When using a TFRSET.dat, the name of the coordinate system is now shown instead of the projection's name
- It's now also possible to add TRFSET.dat files based on WGS84 ellipsoids
- Import/Export:
    - A progress bar indicates the percentage of the process
    - It is now possible importing different kind of KML versions
    - Stability improvements for bigger projects/layers
- Attributes UI:
    - Generate/Edit attribute fields are more comfortable
    - The data type "Auto" is available now

14 About the October 2015 release

14.1 *Zeno Mobile v1.2*

Build number: 942
Release date: 29.10.2015

In addition to overall stability improvements and general bug fixes find the following new features coming with the new release.

14.1.1 *List of features and functionalities in the latest version of Zeno Mobile*

Digitizing
- It is possible now to digitize point, line and polygon features (Multi Collect is also supported)
- Simply activate the Digitize Mode by tapping on the pen in the toolbar:
    - Tap in the map to digitise a point/vertex
    - Tap and hold for high accuracy digitizing.
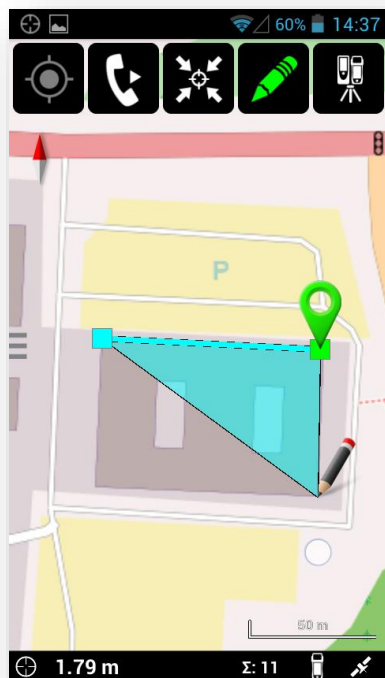
Performance and Stability Improvements
- Bug fix when importing TRFSET.DAT files.
  Please contact Alexander.Fischer@leica-geosystems.com in case you have used TRFSET.DAT imports in the past.
- The WGS84 coordinates are shown now with 5 digits.
- Improvement: When working with L1, the estimated position accuracy was displayed too pessimistic.
- The Translation factors and the scale can be entered with 4 digits, the Rotation with 5 digits.
- RTK arrow is now only flashing when RTK is actually received.
- Updating of Zeno Mobile:
  - From now on the update notification is shown in the Android notification drawer
  - Content of the new releases is displayed in the "What's new" window.
  - Demo equipment can be updated now with latest versions of Zeno Mobile and Zeno Connect over the air.

Release video

What's new in this release? A video shows you all new functionalities
https://www.youtube.com/watch?v=aYN8DyZGIrY&list=PL0td7rOVk_IWy-iIlnVd8axJvNt8i3NIl

Languages

Zeno Mobile is now available in the following languages:
- Chinese Traditional
- Chinese Simplified
- Czech
- Danish
- Dutch
- Finnish
- French
- German
- Greek
- Hungarian
- Italian
- Korean
- Norwegian
- Polish
- Portuguese Portugal
- Portuguese Brazil
- Russian
- Serbian
- Slovakian
- Spanish

15 About the September 2015 release

15.1 Zeno Mobile v1.1

Build number: 924
Release date: 14.09.2015

In addition to overall stability improvements and general bug fixes find the following new features coming with the new release.

15.1.1 List of features and functionalities in the latest version of Zeno Mobile

Languages

Zeno Mobile is now available in the following languages:
- Chinese Traditional
- Chinese Simplified
- Danish
- Dutch
- Finnish
- French
- German
- Hungarian
- Italian
- Korean
- Polish
- Portuguese
- Portuguese Brazil
- Russian
- Slovakian
- Spanish

Just switch the language in the Android Settings, return to Zeno Mobile and find it running in your language.

Export data
- KML Export: Export layers and/or projects as *.kml file to be imported and used within GoogleEarth.
- ASCII Export: Export layers and/or projects to ASCII to be used with any 3rd party CAD package.

Coordinate Systems
- New predefined coordinate systems available: New predefined coordinate systems have been added to enhance your choice. If the coordinate system you need is still not in the list yet, make use of the new Import functionality to build up your own list of favorites.
- Import Coordinate Systems from trfset.dat files: Now you can select not only pre-defined coordinate systems but also import coordinate systems from trfset.dat files. Trfset.dat files can be exported from LGO or Leica Infinity. Both offer full flexibility to create any coordinate system you need.
- Favourite coordinate systems: Select or import the coordinate system you need just once. It will automatically be saved to a list of your favorites. WGS 84 will always be available at the

top of the list.

Editing

▪ Activation of finalized features: You have already finalized a feature but realize then that you still need to edit its geometry? Simply tap and hold the feature to re-activate it or drag the green pin to one of its vertices.

▪ Moving vertices to known and unknown locations in the map: To modify the existing geometry of a feature just move its vertices to any place you want, be that its own vertices, vertices of other features or just any point in the map. If you move it to an existing vertex the new Snapping functionality makes it easy to hit the point.

▪ Cloning features: To quickly duplicate a feature simply clone it. Both features will share their vertices but can have different attributes. It's a neat alternative to quickly multi-collect features of the same type. Cloned features can be continued independently.

▪ Deleting features: Simply delete features that are outdated, erroneous or not needed any more and keep your project clean.

Help

▪ Comprehensive Help on new functionality: To read more and learn about details of new and existing functionality in Zeno Mobile Help simply tap F1 on your Zeno 20 to open a comprehensive Help on all features. The Help is also always available via the Navigation Slider.

15.1.1.1 How to update Zeno Mobile/Zeno Connect on Android over the air
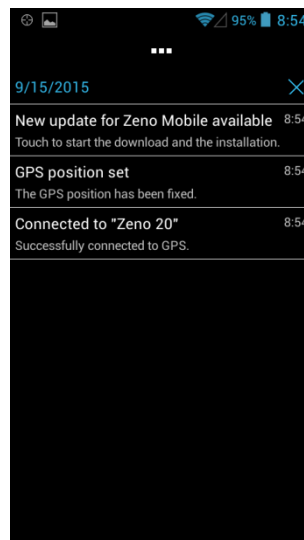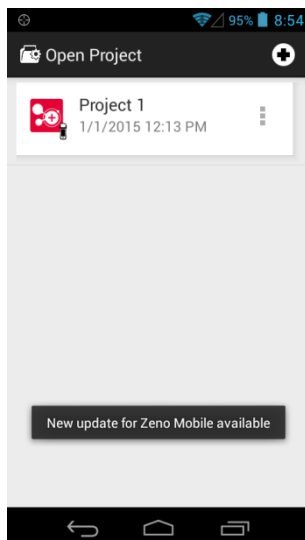
Every time a new update of Zeno Mobile is available and Zeno 20 has a mobile data connection activated, either via WLAN or via modem, you receive a message "New update for Zeno Mobile available".

To start the download of the new Zeno Mobile version, just tap on the message in the Zeno Mobile notification area.
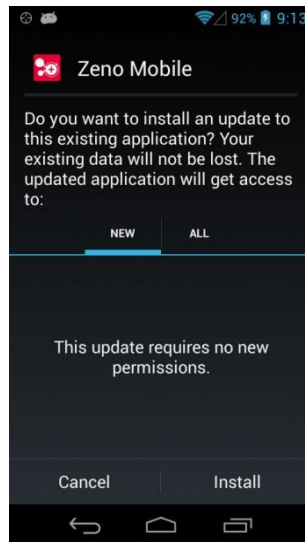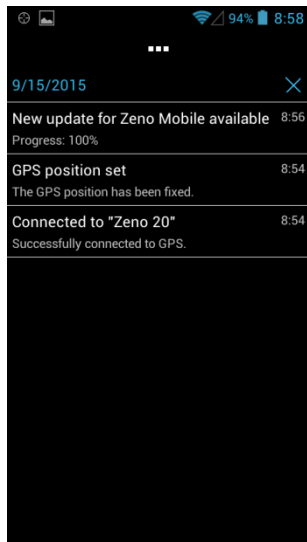
Once the update is downloaded, tap on the message to launch the installation.

Tap the "install" button and the latest Zeno Mobile build will be installed on your Zeno 20.

In the same way it is also possible to update Zeno Connect on Android over the air.

16 About the July 2015 release

16.1 Zeno Mobile v1.0

Build number: 862
Release date: 25.06.2015

Can you imagine starting at a jobsite in a city that is excavating soil and not having solid and reliable information about the city digital data that identifies precisely where pipelines, telecom and water mains are located? In such an example, the reliable data needs to be collected beforehand. The source of the data, the mapping techniques, the accuracy and up-to-datedness of the collected data are essential and without them real dangers exist. And for sure, any mobile mapping solution should be easy for anyone to understand, eliminate errors, provide an automated workflow and make a novice also feel like an expert. An unmatched intuitiveness ensures that new users feel comfortable with the offering after minutes.

Therefore, as a world's first, the Leica Zeno GIS family guarantees a simplicity without limitations. Managing and maintaining assets, inspecting infrastructure, responding to emergencies and as-built and incident mapping – the Leica Zeno 20 offers you the best in its class soft- and hardware solution for your needs. You get exactly what you want and expect from an easy mobile GIS solution. Leica Zeno 20 consist of a GIS collector hardware (either with Android or Windows Embedded Handheld 6.5.3 OS), various field apps (Leica Zeno Field (WEH 6.5.3.), Leica Zeno Mobile (Android), and Zeno Connect (for supporting 3rd party apps on the Zeno 20) and Office Software (Leica Zeno Office and Leica Zeno Office on ArcGIS).

For Zeno Mobile, we plan to offer continuous releases and the software gets automatically updated. Please ensure you have a valid CCP to benefit from continuous product enhancements.

16.1.1 Features of Leica Zeno 20 at a glance

16.1.2 The New GIS Collector Hardware

The most rugged and versatile GNSS/GIS Handhelds in the market

- Android 4.2.2 or Windows Embedded Handheld 6.5.3.
- High Accuracy Capable GNSS Board (sub-meter to cm accuracy)
- Dual core Texas Instruments OMAP 4470 1.5 GHz Processor
- 1 GB RAM
- 4 GB on-board iNAND - expandable via microSD card
- 4.7" FWVGA sunlight readable, capacitive multi-touch screen (Asahi Dragontrail strengthened glass, Brightness 600+ cd/m2)
- 8 MP Camera with Autofocus & LED flash
- Input/Output:
    - 1 x USB 2.0 port
    - 1 x micro USB client for data transfer and charging
    - Integrated audio and microphone
- Wireless LAN 802.11 b/g/n
- Bluetooth: Class 2 (10m), V3.0 in Android
- WWAN 3.8G GSM (Zeno 20 UMTS) or CDMA (Zeno 20 CDMA)
- Hot- swappable lithium ion battery
(<7 hours when using internal modem & GNSS)
- Sand, Dust & Water Rating: IP67
(Dust: IEC-60529; Water: IEC-60529)

16.1.3 Leica Zeno Mobile

Build Number: 862

Leica Zeno Mobile is an intuitive to use GIS data collection software. Zeno Mobile provides a revolutionary way to collect features, attributes and photos. There is no need of defining features in advance in the office. Simply charge the device, watch a few videos and you are ready to collect data. And in case you have to measure multiple features on one location, use the unique multi-collect functionality of Zeno Mobile Professional.

Please ask your local Leica representative for an evaluation license, in case you have not tried it out yet.

16.1.3.1 List of features and functionalities in the latest version of Zeno Mobile

Map items
- High speed rendering engine to display vector and raster data in the map
- Background data
    - OSM
    - Hexagon Imagery Program
    (please note that the content of the HxIP is currently only available in the US)
- Gesture support
    - Pinch to zoom
    - Pan
    - Rotate
    - Zoom with single tap (made for stylus)
- Centre on GPS position

Zeno Mobile notification system
- Get information on
    - GPS connection state
    - RTK state

- Disto connection
- Available updates of Zeno Mobile
- Much more to come

RTK
- For countries with a Leica SmartNet, pre-defined profiles are already customized onto Zeno 20. Just enter your user name and password and you're ready for high-accuracy
- RTK Wizard for easy creating RTK profiles step by step
- Connect to a RTK source via mobile Internet connection, Wi-Fi or Radio/Beacon

Sensor connection
- Connect to internal high accuracy L1/L2 sensor
- Obtain centimetre accuracy by using an external antenna (AS05/AS10) without the need of defining anything. Just plug cable into Zeno 20, and the Zeno 20 will switch automatically.
- Reset GNSS receiver settings
- Define GNSS observations settings
    - Cut-off angle
    - Antenna Height
    - Antenna Info
- Easy connection to GG03/GG02 plus, in order to work cable free.

Units
- Choose between following units
    - Meters
    - U.S. survey feet
    - International feet
- Units are visible and used @:
    - Notification area (Status Bar)
    - All settings dialogs
    - Scale bar
    - Accuracy displayed
    - Disto
    - Coordinate System

Licensing
- Online: License Zeno Mobile over the air once you have ordered e.g. an upgrade
- Offline: License keys by browsing them or typing them in
- Zeno Mobile comes pre-installed and pre-licensed on the Zeno 20

Automatic update over the air
- Download no longer manually an installation file from myWorld
- Whenever there's a Zeno Mobile update available and your CCP is valid, it can be downloaded over the air.
- This functions is extremely helpful as we plan very frequent Zeno Mobile releases in the future

Dropbox – Connect to the cloud
- Add projects/layers to Dropbox
- The Dropbox functionality is embedded into Zeno Mobile, no need of downloading an extra app.

- Log in once and you will be able to upload and download projects to/from Dropbox
- Share easily data between field and office
- Set up projects on one device and share them to multiple devices via Dropbox with some taps

Collect features the Zeno Mobile way:
- Always take the measurement first, assign afterwards the feature class
- The Feature Tag gives information on the feature that was just measured
- Context sensitive Wheel Menu: Benefit from the slim UI and choose between options that matter at the moment.
    - Edit Attributes
    - Change Feature Class
    - Edit Geometry
    - Finalize Feature
    - Obtain coordinates from measured point
- Not…? Command: What can be easier than just saying Not…?
  Once you intend measuring a feature of a different feature class tap the "Not…? button" in the Wheel Menu and choose between your existing features class or define a new one.
- Always have an eye on your coordinates. Tap the accuracy button in the Wheel Menu and receive coordinates of your measured point in WGS84 and the selected local coordinate system
- Intuitive way of changing a feature's geometry
    - Move the pin on a line's or polygon's vertex to adjust its geometry
    - Append vertices to a feature
    - Insert vertices to a feature
- Multi Collect:
    - Take a single measurement and assign multiple feature classes to the measurement
    - Reduce time/walking distance
    - Have topological correct points this way
- Notification Area: All important information on one place
    - Fix-Type
        - Navigated solution
        - Code-Fix
        - Phase-Fix
    - Accuracy
    - Number of satellites
    - Antenna in use
    - Selected RTK source

- Support of hard key buttons:
    - Take measurements
    - Connect/Disconnect to RTK
    - Take pics
    - Open help

gamtec
- Take offset points in an accuracy similar to GPS.
- Angles are not obtained from inaccurate electronic compasses, they are defined by accurately measured directions.
- Take only a single orientation measurement and you're ready for offset measurements.
- Totally embedded workflow in the most intuitive way

- Automatic connection between Zeno 20 and Disto S910 (manual connection must be done only once)
- Switch easily between Disto S910 measurement and measurements done with GPS only

Rich Coordinate System support
- Support of hundreds of different coordinate systems worldwide
- Support of Geoid and CSCS files
- Completely new way of working in local coordinate systems. Made for non-experts
- Switch between coordinate systems whenever you want. Projections and transformations are done on the fly!
- E.g. Start first in WGS84 (default) and select after a while your favourite coordinate system. Data is recalculated on the fly
- Add shape files in different coordinate systems. Zeno Mobile will take care for matching them

Project Management
- Define new projects with a few taps only
- Add projects from Dropbox
- Send projects to Dropbox
- Edit projects (name, coordinate system)

TOC
- See what layers are in your projects
- Support of Android gestures
  - Swipe through TOC
  - Move layers to different positions
  - Delete layers
- Add layers from/Send layers to
  - Dropbox
  - Other projects
  - Download folder (to bring it to your PC)
- Define features symbology
  - Colour
  - Size
  - Width
- For more information, visit the Zeno Mobile Help installed on the Zeno 20.

Note:
- Zeno Mobile and Zeno Connect should not be installed on a Zeno 20. For using Zeno Mobile and Zeno Connect functionality both together, please install Zeno Mobile and license it additionally with a Zeno Connect license. Now both, Zeno Mobile and Zeno Connect functionality will be available.
- Hexagon Imagery Program. Data is currently only available for parts of USA.