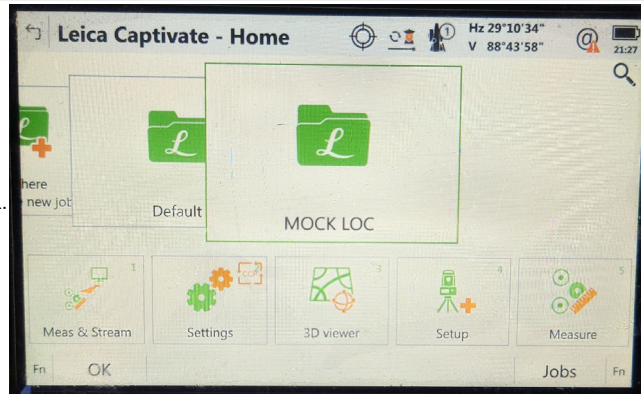
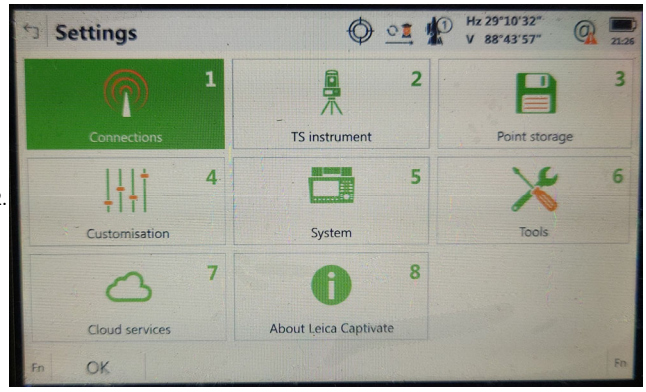
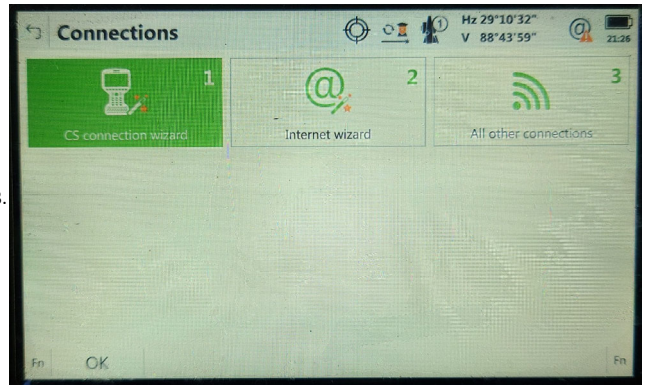
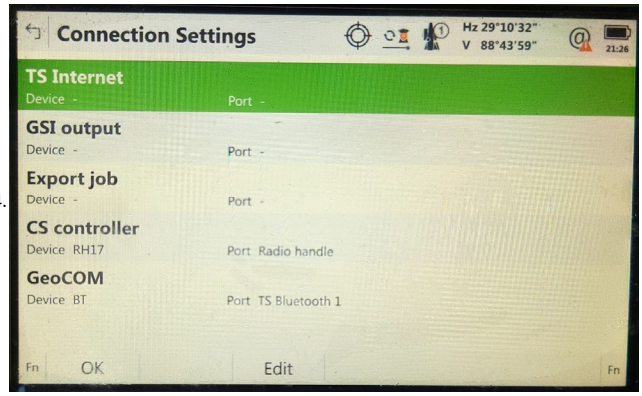
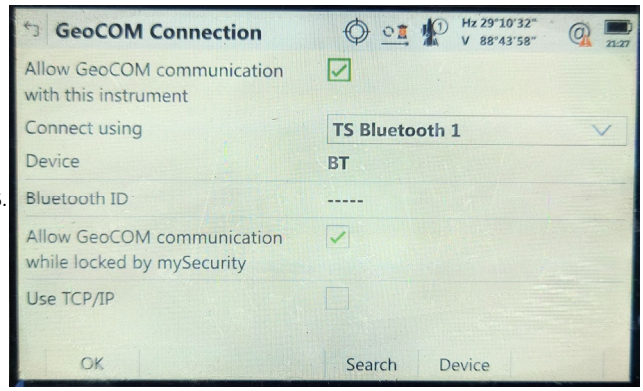
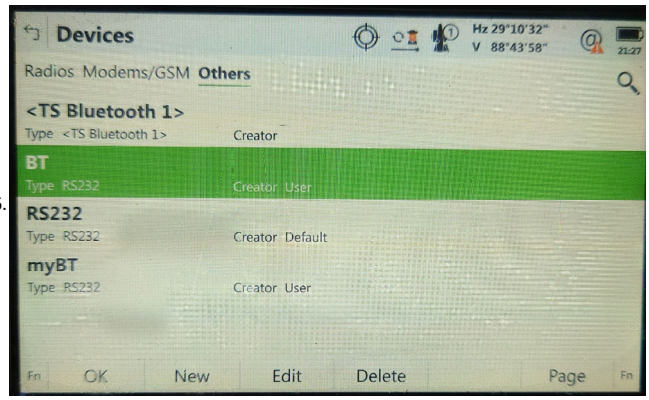
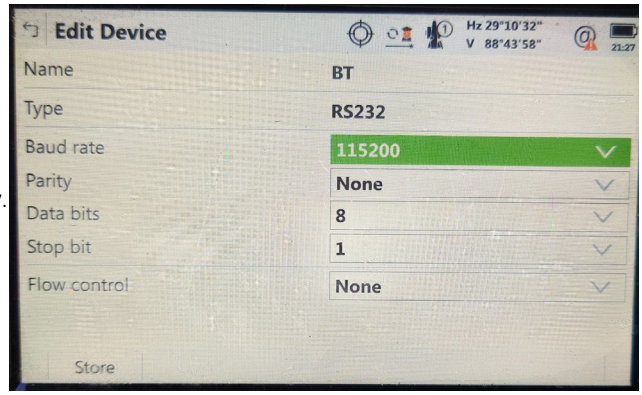
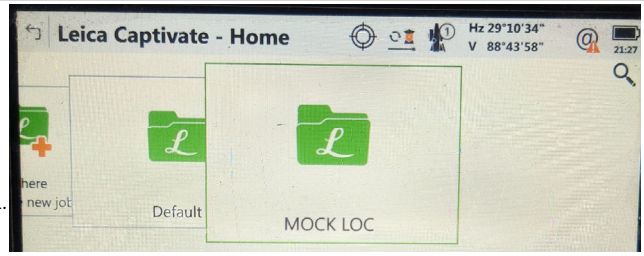
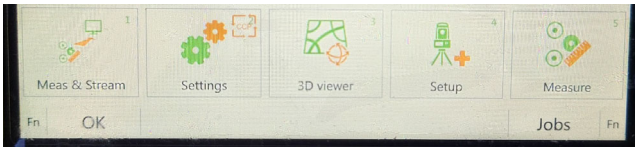
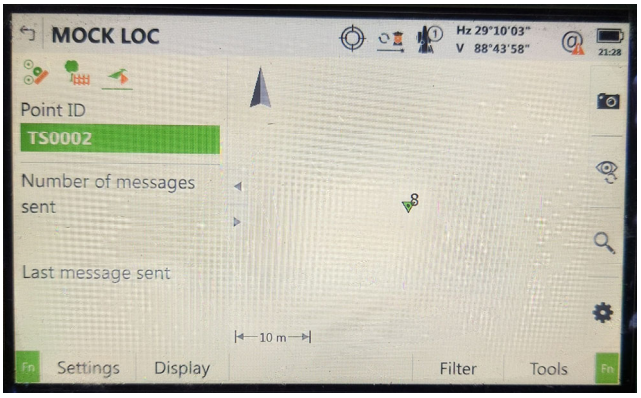
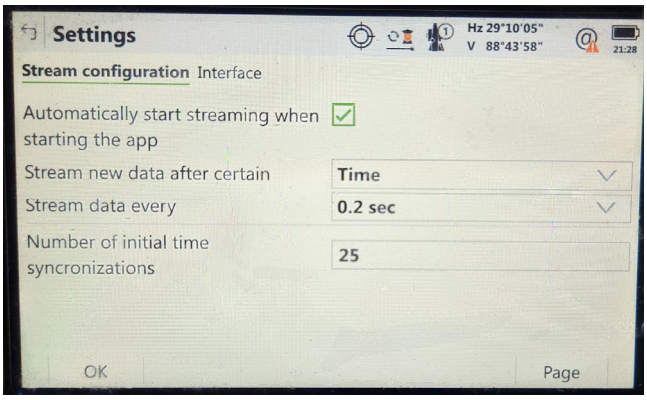
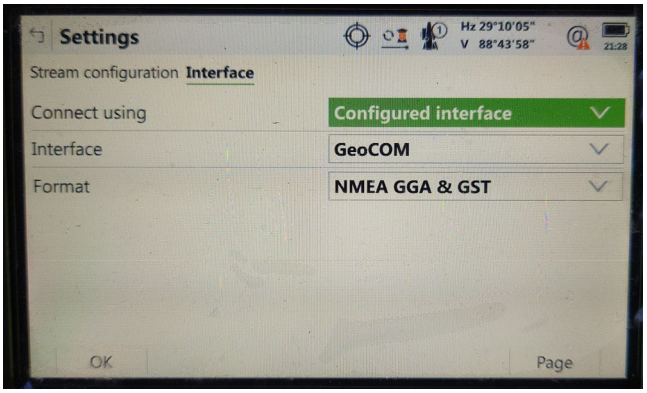
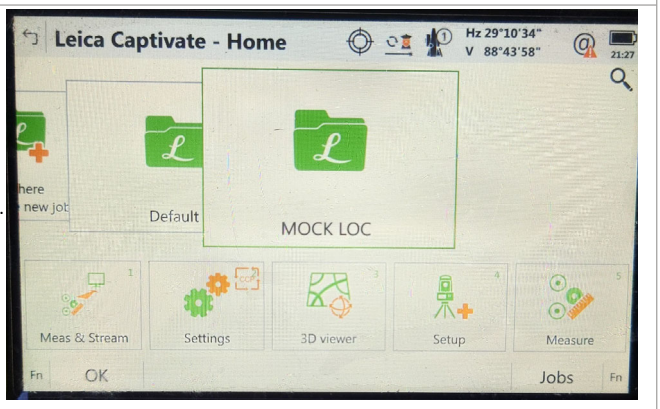
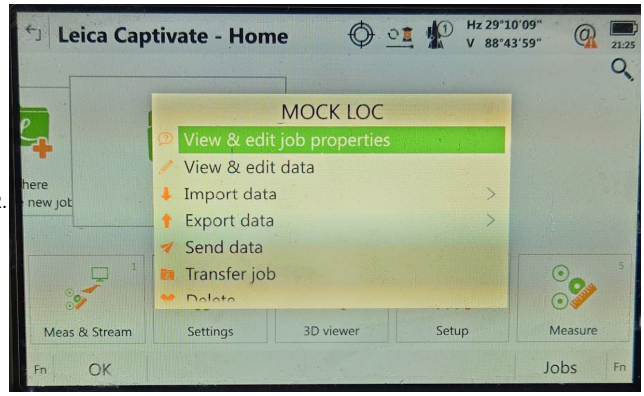
Leica Total Station - vGIS Integration

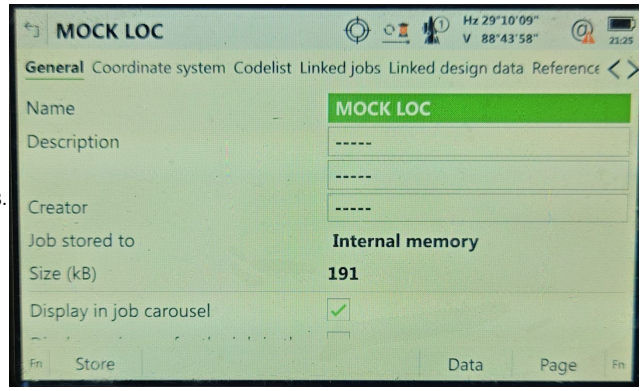
January 26, 2022 10:27 AM

Step	Comments	Details
1	Install the TS Streaming app (one-time setup)	TPS SurveyStr...
2	Configure settings (one-time setup) 1. From the **Home** screen, click **Settings** 2. In **Settings** choose **Connections** 3. Select **All other connections** 4. Make sure **GeoCOM** uses **Port TS Bluetooth 1** and click on **GeoCOM - Edit** a. Other connections should not use Bluetooth 1 or Bluetooth 2 ports 5. In **GeoCOM Connection**, set these values and click **Device** a. Allow GeoCOM communications with this instrument - **ON** b. Connect using **TS Bluetooth 1** c. Device - **Custom Device** configured in Step 2.6 d. Allow GeoCOM communication while locked by mySecurity **Important:** do not execute the Bluetooth device search from the Total Station. The Bluetooth ID line on Screenshot 2.5 should remain "--------" as depicted on the screenshot. 6. In **Devices**, create a **New** (or edit existing) - example: BT device 7. On the **Edit Device** screen, set a. Type - **RS232** b. Baud rate - **11520** c. Parity - **None** d. Data bits - **8** e. Stop bit - **1** f. Flow control - **None**	1.  2.  3. 

		4. 
		5. 
		6. 
		7. 
3	Streaming app configuration (one-time setup) 1. From the **Home** screen, click **Meas & Stream** 2. **Before** streaming starts (if it is starts automatically, stop streaming), click **Fn** and then **Settings** 3. On the **Stream Configuration** tab, set: a. Automatically start streaming when starting the app - **On** (optional) b. Stream new data after certain - **Time** c. Stream data every - **0.2 sec** 4. On the **Interface** tab, choose: a. Connect using - **Configured interface**	1. 

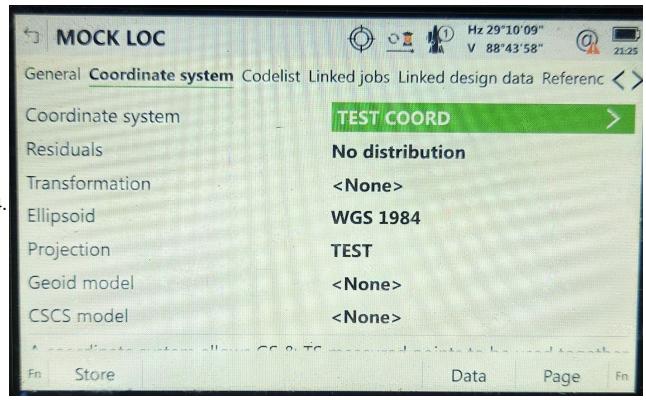
	b. Interface - **GeoCOM** c. Format - **NMEA GGA & GST**	
		2. 
		3. 
		4. 
4	Job configuration (required for new locations) 1. From the **Home** screen, click **Create New Job** (or modify existing) 2. Select **View & edit job properties** 3. In Job Details, define the **Name** on the **General** tab 4. Switch to the **Coordinate system** tab and select **Coordinate system** (or create new) 5. In the **Coordinate Systems** view, create **New** or select existing 6. In the **Edit Coordinate System**, choose **Projection** 7. Select existing or create **New** 8. On the **Edit Projection** screen, set a. Type - **Transverse Mercator** b. Set false **easting** and **northing** c. Set **latitude** and **central meridian** d. Leave **CM scale** at 1.0000000000 9. From the **Home** screen, select **Setup** and then **Set Orientation**	1. 

2. 
Leica Captivate - Home
Hz 29°10'09"
V 88°43'59"
MOCK LOC
View & edit job properties
View & edit data
Import data
Export data
Send data
Transfer job
Meas & Stream
Settings
3D viewer
Setup
Measure
Fn
OK
Jobs
Fn

3. 
MOCK LOC
Hz 29°10'09"
V 88°43'58"
General Coordinate system Codelist Linked jobs Linked design data Reference
Name
MOCK LOC
Description

Creator

Job stored to
Internal memory
Size (kB)
191
Display in job carousel
Fn
Store
Data
Page
Fn

4. 
MOCK LOC
Hz 29°10'09"
V 88°43'58"
General Coordinate system Codelist Linked jobs Linked design data Referenc
Coordinate system
TEST COORD
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Transformation
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Ellipsoid
WGS 1984
Projection
TEST
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Store
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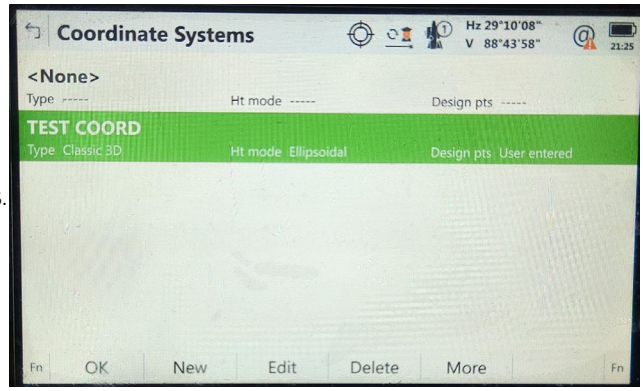
5. 
Coordinate Systems
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V 88°43'58"
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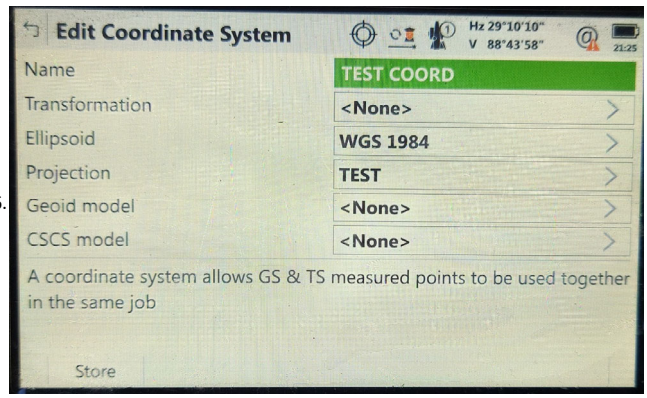
Type ---
Ht mode ---
Design pts ---
TEST COORD
Type Classic 3D
Ht mode Ellipsoidal
Design pts User entered
Fn
OK
New
Edit
Delete
More
Fn

6.



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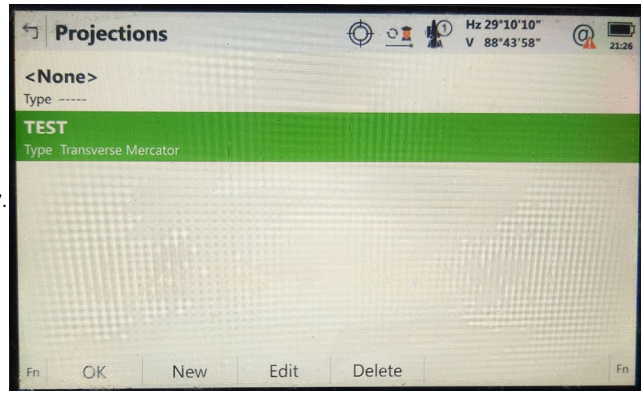

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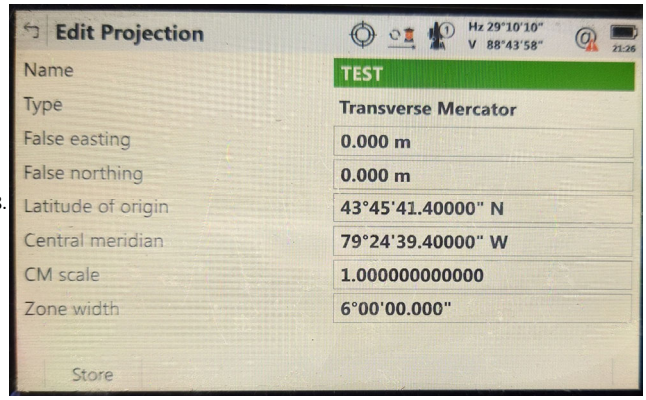

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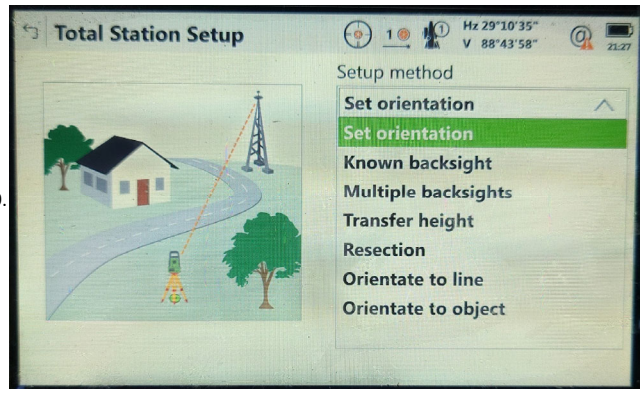
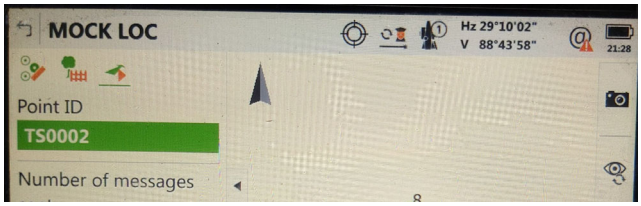


5 Initiate vGIS connection (required for every AR session)

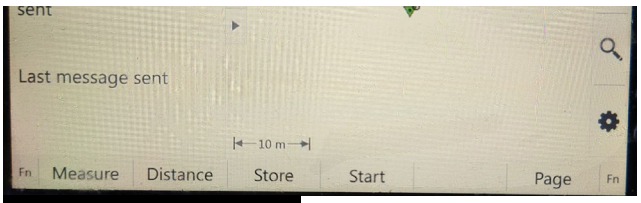
1. Start Total Station and open the **Meas & Stream** app; if steaming didn't start automatically, click **Start**
2. Launch vGIS
   a. Make sure the prism is unobstructed
   b. Start vGIS on your device
   c. Select on the **Main Menu > Options > GNSS**
   d. On the **GNSS** tab, select Positioning Mode **- High-Precision GNSS/RTK** and Integration type of **Total Station**
   Note: In the future release, select Positioning Mode - **Leica Total Station**



3. Wait for the "Connecting…" message in vGIS and "Connected" message to appear on the Total Station
    a. The Total Station's clock will adjust

    Note: In the future release,
    a. vGIS will display the **Connecting to TS** and **Configuring TS** in sequence
4. To search for the prism from vGIS, click the **TS: Prism Search** button
5. Once the Prism is found and streaming starts, the **Connected to TS…** message will appear. The accuracy bubble will display 0.01m accuracy and the current coordinates. The data will be loaded automatically. vGIS can be calibrated, if it isn't already.
6. If the prism is lost, wait for vGIS to initiate an automated prism search (three attempts). If the prism is not found, click the **TS: Prism Search** button.
    Note: In the future vGIS provide notifications about the lost and found prism

1.



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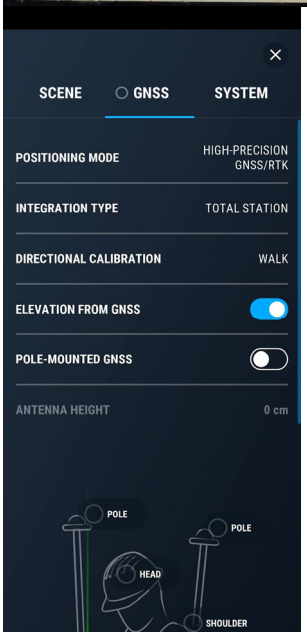
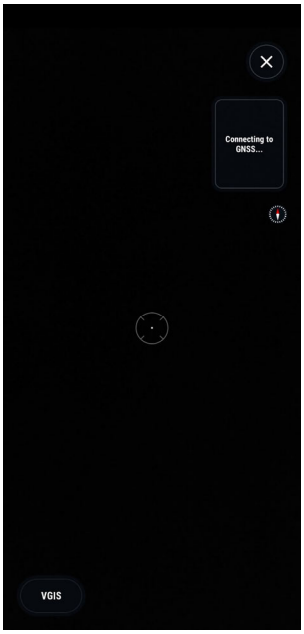
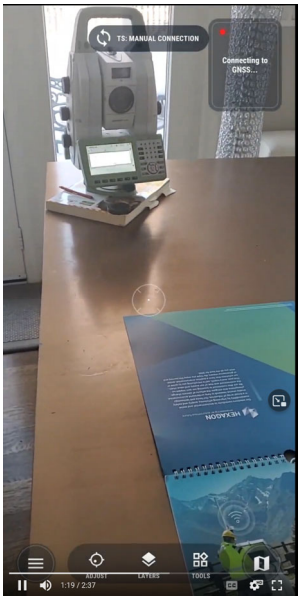
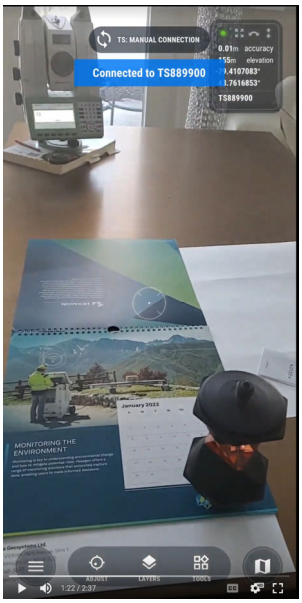


3.



4. 
TS: MANUAL CONNECTION
Connecting to GNSS...
ADJUST
LAYERS
TOOLS
1:19 / 2:37

5. 
TS: MANUAL CONNECTION
Connected to TS889900
0.01m accuracy
elevation
TS889900
MONITORING THE ENVIRONMENT
ADJUST
LAYERS
TOOLS
1:22 / 2:37