

LTI TruPulse 200X Interface to Esri's Field Maps for iOS via EOS's Tools Pro app

Quick Reference Guide



OVERVIEW

LTI's TruPulse 200X high-precision mapping laser has BT output to any mobile device. Eos has written a laser interface into their Tools Pro app. Through the standard Offset function in Field Maps, laser measurements can automatically be recorded.



Compatible LTI products

- TruPulse 200X
- TP200X/TruAngle system



iOS Software used

- Eos Tools Pro (version 1.99)
- Esri Field Maps (version 21.3.1)

Basic Steps

- Connect Laser to iOS Device
- Initiate Point Offset in Field Maps
- Record Laser Data with EOS Tools Pro
 - Range-Range/Intersect
 - Range-Backsight
- Store Offset Location in Field Maps

Connect Laser to Device

The TruPulse 200X's Bluetooth module is compatible with Windows, Android and Apple iOS. The first time you connect the laser to your device, it will need to be paired.

1. In the laser Settings menu, turn Bluetooth "On" when using the laser alone; and "Enc" mode when using it with the TruAngle (Figure 1)
2. On the device, turn Bluetooth **On** and discover the TruPulse 200X (Figure 2)
3. Select it from the list, enter the passcode "1234" and tap **Pair** (Figure 3)
4. Confirm the laser is paired to the device and exit the Settings menu (Figure 4)



Figure 1

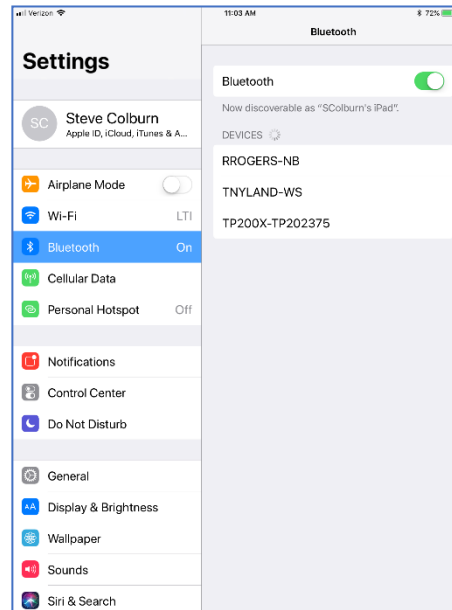
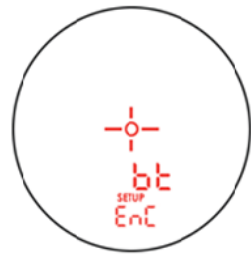


Figure 2

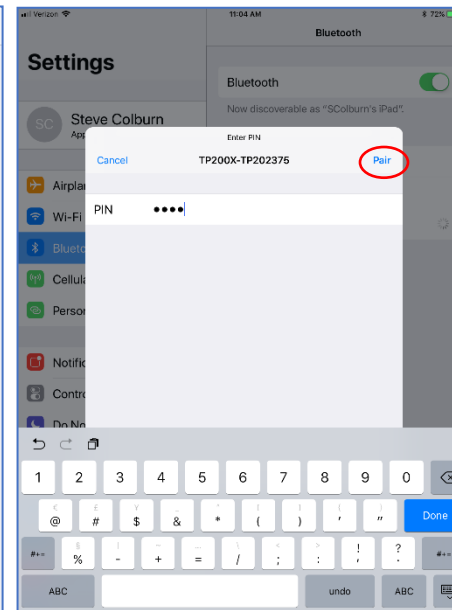


Figure 3

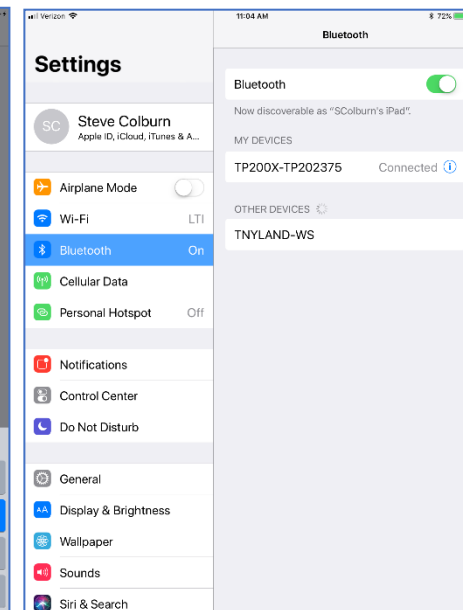


Figure 4

Field Maps: Point Offset

Esri's Field Maps app can be configured to allow a Laser offset position to be calculated when using Eos's Arrow Gold GNSS product. This guide assumes the user has installed Eos's Tools Pro app and connected their Eos Arrow Gold receiver to the device

5. Start Field Maps and navigate to the **Profile/Collection Settings/Offset** pull-down list and select the Eos Tools Pro app (Figure 5)
6. Open your Map and choose to **+ Add** a Point feature (Figure 6)
7. Edit the notes for the point and tap the **Menu** icon (Figure 7)
8. Select **Offset from Location** (Figure 8) and this will start the Eos Tools Pro app

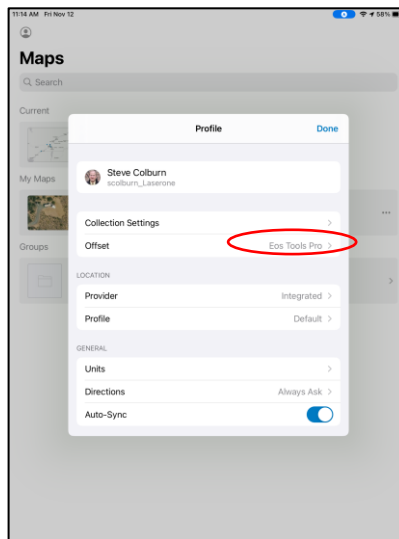


Figure 5

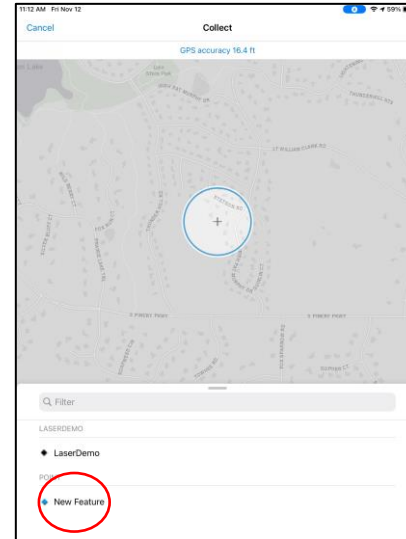


Figure 6

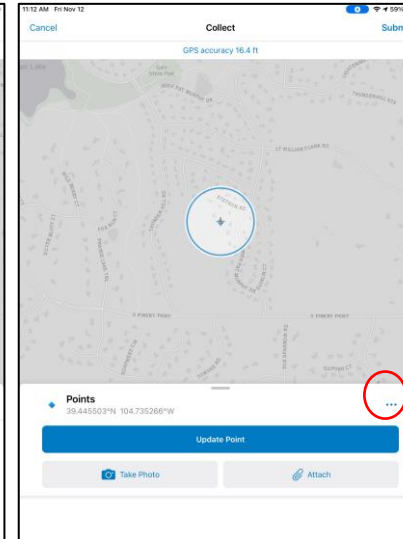


Figure 7

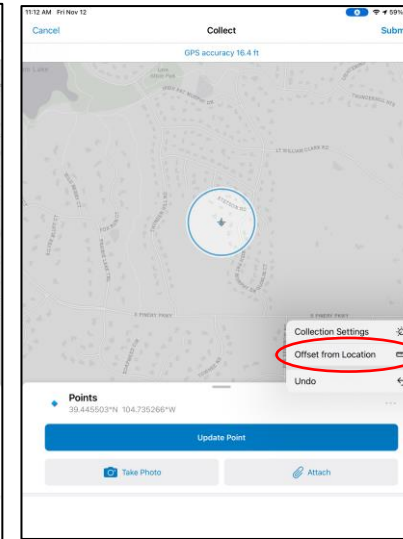


Figure 8

Tools Pro: Range-Range

Eos's Tools Pro app will record data from the laser and generate the remote position for the feature. The TruPulse 200X can be used alone in a very accurate 2-shot method.



- 9A. Pull down the **Measurement Method** menu; choose **Range-Range/ Intersect** and confirm the laser is connected (Figure 9A)
- 10A. **Step #1:** Confirm the Number of Positions to Average is correct, tap **Start** (Figure 10A) and when the GPS data is recorded, tap **Next**
- 11A. **Step #2:** Aim at the target and measure HD with the TruPulse 200X (Figure 11A)
- 12A. **Step #2:** Confirm values for Slope Distance and Inclination come through (Figure 12A) and tap **Next**

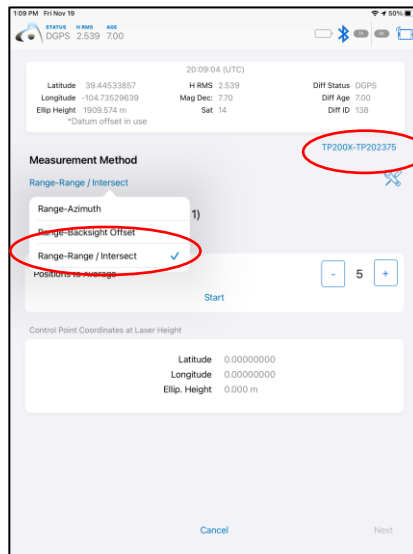


Figure 9A

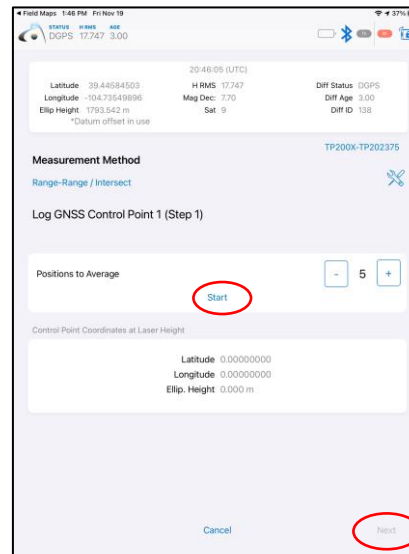


Figure 10A

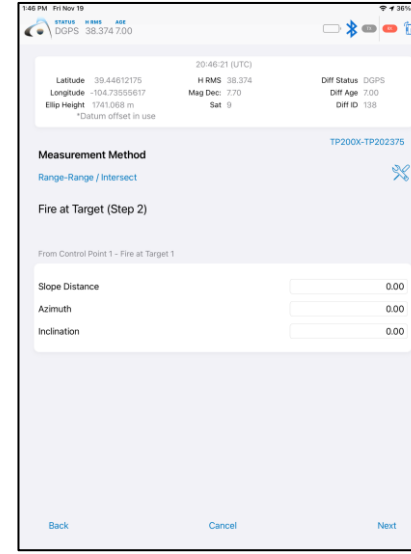


Figure 11A

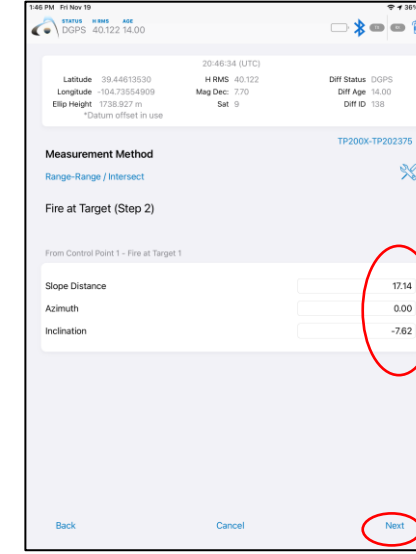


Figure 12A

Tools Pro: Range-Range

Range-Range/Intersect method continued...

- 13A. **Step #3:** Move to the 2nd control point, tap **Start** (Figure 13A) and when the GPS data is recorded, tap **Next**
- 14A. **Step #4:** Aim at the target again and measure the HD, confirm values for Slope Distance and Inclination come through (Figure 14A) and tap **Next**
- 15A. **Step #5:** Choose which solution is correct by tapping the corresponding **Pt1/Pt2** icon so it turns green (Figure 15A)
- 16A. Tap the **Send** button (Figure 16A) to transfer the offset location back to Field Maps

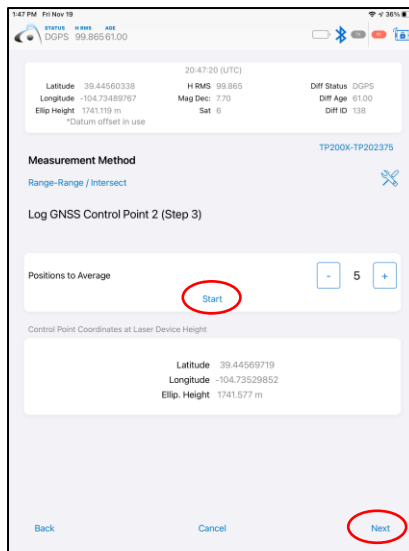


Figure 13A

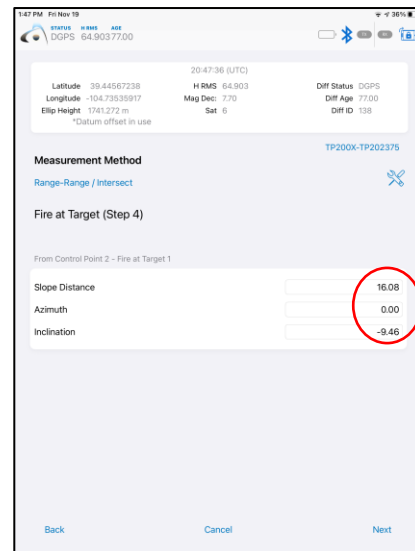


Figure 14A

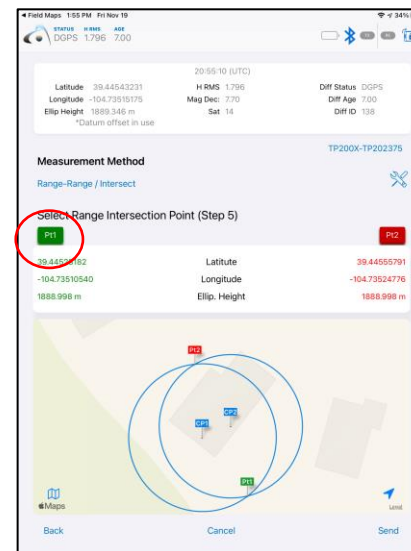


Figure 15A

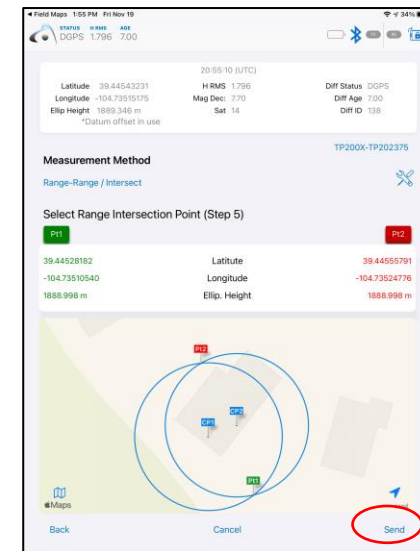


Figure 16A

Tools Pro: Range-Backsight

To measure offset locations with a single laser shot, choose the Range-Backsight method. This guide assumes the TruPulse 200X and TruAngle are configured, powered On and connected to the device. *The TruAngle needs to be zeroed in any direction and ready to fire

- 9B. From the **Measurement Method** menu, select **Range-Backsight** and confirm the laser connection (Figure 9B)
- 10B. **Step #1:** Occupy the Backsight point, confirm the Number of Positions to Average is correct, tap **Start** (Figure 10B) and when the GPS data is recorded, tap **Next**
- 11B. **Step #2:** Occupy the Control Point, confirm the Number of Positions to Average is correct, tap **Start** (Figure 11B) and when the GPS data is recorded, tap **Next**
- 12B. **Step #3:** Aim and fire the laser system at the Backsight point, confirm values for Slope Distance, Azimuth and Inclination come through (Figure 12B) and tap **Next**

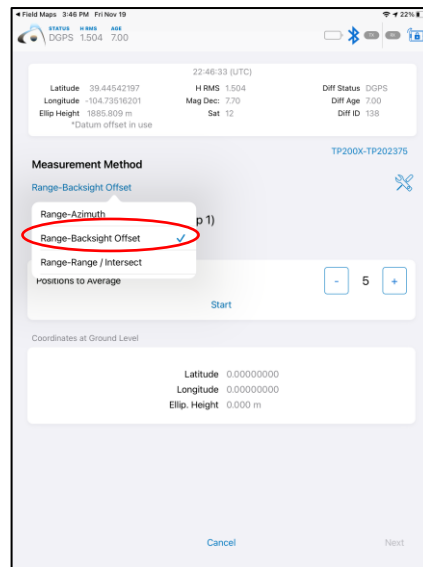


Figure 9B

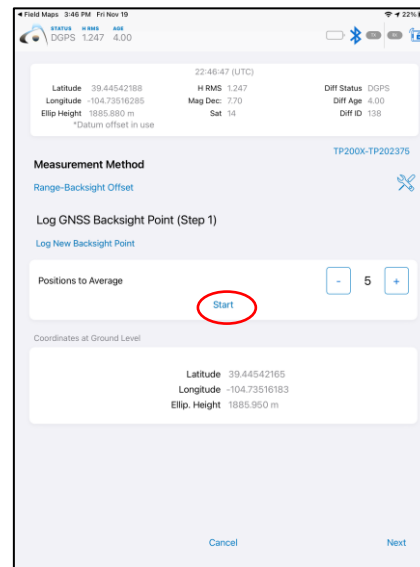


Figure 10B

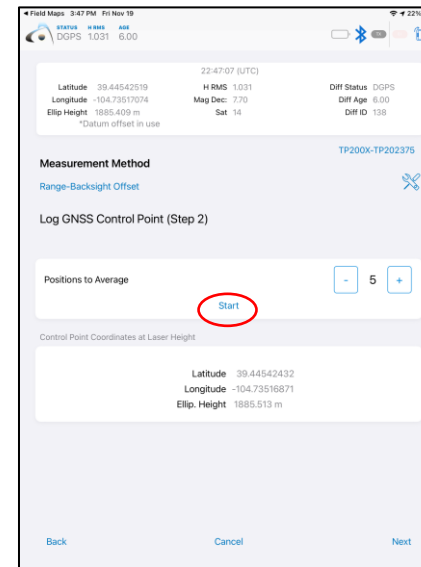


Figure 11B

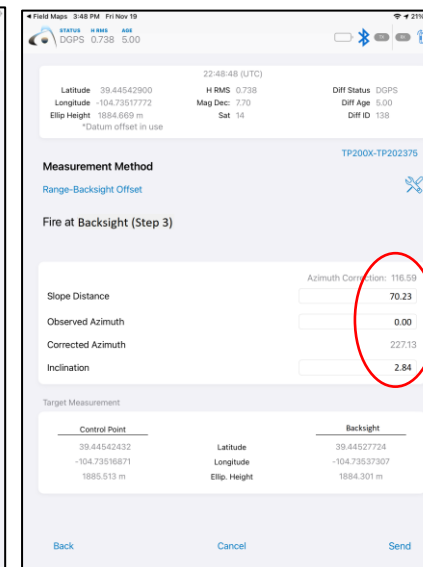


Figure 12B

Tools Pro: Range-Backsight

Range-Backsight method continued...

- 13B. **Step #4:** Aim and fire the laser system at the Target point, confirm values for Slope Distance, Azimuth and Inclination come through (Figure 13B)
- 14B. If the data looks good, tap **Send** (Figure 14B) to deliver the offset location to Collector
- 15B. Multiple features may be mapped from this Control Point by returning to **Step #4** of the Range-Backsight screens, shooting in the next target (Figure 15B) Confirm the data comes through and tap **Send** to deliver the coordinates to Collector
- 16B. If a new Control Point or Backsight point needs to be measured, simply Back up to Step #1 and record the positions again (Figure 16B)



Control Point	Latitude	Longitude	Ellip. Height
39.44542432 -104.73516871 1885.513 m	39.44542900 -104.73517772 1884.669 m	39.44527724 -104.73537307 1884.301 m	1884.301 m

Figure 13B

Control Point	Latitude	Longitude	Ellip. Height
39.44542432 -104.73516871 1885.513 m	39.44542900 -104.73517772 1884.669 m	39.44527724 -104.73537307 1884.301 m	1884.301 m

Figure 14B

Control Point	Latitude	Longitude	Ellip. Height
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Figure 15B

Control Point	Latitude	Longitude	Ellip. Height
39.44542432 -104.73516871 1885.513 m	39.44542165 -104.73516183 1885.950 m	39.44527724 -104.73537307 1884.301 m	1884.301 m

Figure 16B

Field Maps: Store Location

Esri's Field Maps app will now consume the Laser Offset position calculated within the Eos Tools Pro app.

17. Field Maps will display the new point in red and if OK, tap **Submit** (Figure 17)
18. The updates will be sent to the app (Figure 18)
19. Details for the new Point will be displayed (Figure 19)
20. Continue in this manner to store additional offset locations

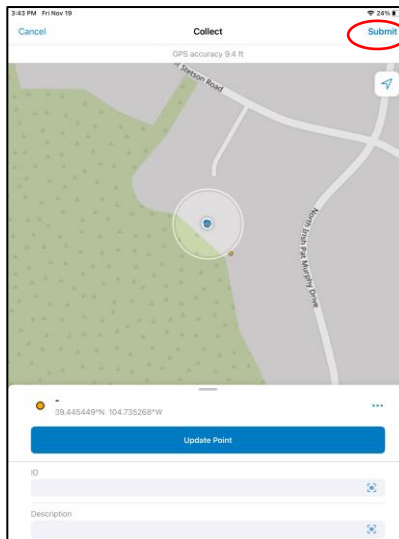


Figure 17

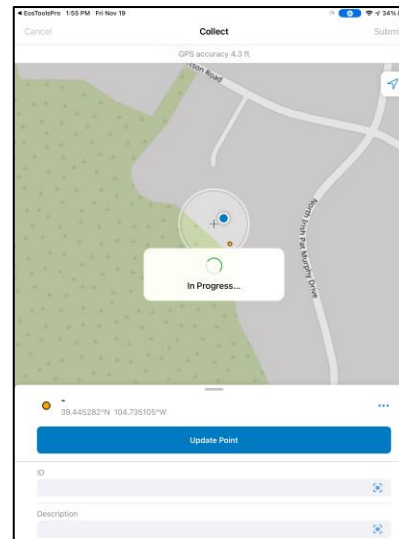


Figure 18

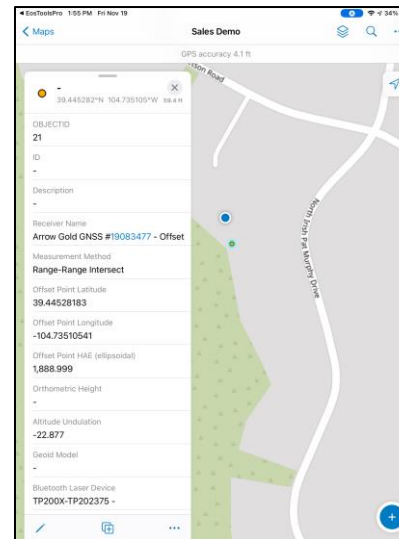


Figure 19

Product Resources

Product Page/User's Guides:

<https://www.lasertech.com/TruPulse-Laser-Rangefinder.aspx>

The screenshot shows the Laser Technology website's product page for the TruPulse Laser Rangefinder. The page features a navigation bar with links like 'Home', 'About LTI', 'Applications', 'Products', 'Where To Buy', and 'Community & Support'. A 'Quote Request' form is visible on the right, with a dropdown menu for 'TruPulse 200' and a quantity field set to '1'. The main content area includes a product image of the rangefinder, a 'TRUPULSE® SERIES' heading, and a sub-heading 'Compact and Affordable.' Below this, there is a list of features: 'Small enough to fit inside a vest pocket', 'Easy access to measurements and menus', and 'GPS and GIS software integration'. A 'TruPulse Laser Rangefinder' section highlights it as 'The Most Compact and Versatile Laser Rangefinder in the World!'. There are also sections for 'Videos / Webinars' and 'Downloads'.

Stay informed! Find out about Laser Technology products, updates, and training resources by keeping track of us on FaceBook (/LaserTechnologyInc), Twitter (@LaserTechPro) and YouTube (/user/LaserTechPro)

<https://eos-gnss.com/product/solutions/laser-mapping/>

The screenshot shows the EOS GNSS website's 'Laser Mapping' solution page. The page features a navigation bar with links like 'HOME', 'PRODUCTS', 'NEWS', 'LEARNING CENTER', 'PARTNERS', and 'CONTACT'. A large image shows a person using a laser scanner at night. Below the image, the text reads 'RTK LASER MAPPING' and 'Collect High-Accuracy Location Where GNSS Receivers Struggle'. It also mentions 'Solution Partners: esri' and 'Laser Technology Measurably Superior'.

<https://www.esri.com/en-us/arcgis/products/arcgis-field-maps/overview>

The screenshot shows the Esri website's 'Collector for ArcGIS' product page. The page features a navigation bar with links like 'Products', 'Industries', 'About', and 'Support'. A large image shows a mobile device displaying the Collector for ArcGIS interface. Below the image, the text reads 'Collector for ArcGIS' and 'Accurate data collection made easy'. It also mentions 'Put mapping in the hands of your field workforce to improve the accuracy and currency of your spatial data. Enable more timely and informed decisions.' and 'How it's used'.

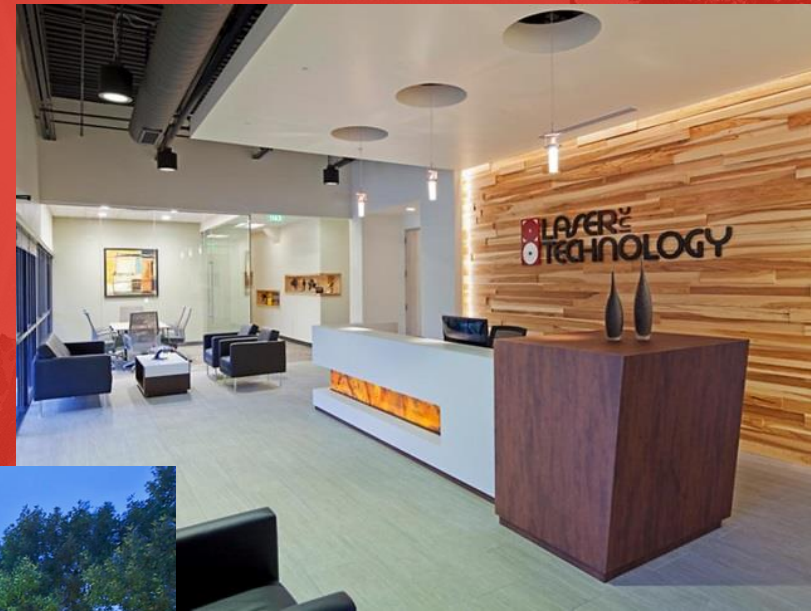
Questions regarding the Field Maps interface with EOS Tools Pro app or other products built by Laser Technology, Inc?

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